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ORIGINAL ARTICLES.

A SUCCESSFUL CASE OF GASTROTOMY, WITH CRITICAL REMARKS.

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THERE are numerous cases of the accidental or foolhardy swallowing of foreign substances recorded in the literature of medicine. Almost every physician has met one or more cases in his own practice. The vast majority of these objects are either ejected from the stomach by vomiting or pass through the intestinal canal without causing trouble or inconvenience. Among objects which have been known to pass off in this manner we may enumerate the following motley list: All kinds of fruit kernels, buttons, coins, nails and tacks, needles and pins, hairpins, articles of jewelry and rings, chessmen, checkers, dominoes, pieces of wood and corks, even small medicine bottles, a live mouse, lead bullets, etc. In a small number of this class the foreign body was found engaged in some part of the intestinal canal, where it caused ulceration and perforation, which was followed by peritonitis and death. In other still rarer cases, the foreign body has made its way to the surface by ulceration, which followed the path of inflammatory adhesions, and resulted in a natural cure.

The following pages will be devoted to the study and consideration of a different, rarer, and much more serious class of cases. We have recorded in the literature of medicine of all countries twenty-eight cases where foreign bodies were swallowed, of such size and shape that they could not possibly leave the stomach *per vias naturales*, either to be vomited up or to pass down and out. These cases were followed by the gravest symptoms, and sooner or later threatened to destroy the life of the patients by the continued irritation of the stomach which they caused. In an article by Credé, of Dresden, I found a table which was most carefully compiled by Dr. Koch, who searched the entire literature, and by studying the original memoirs has succeeded in giving us all the authentic cases in a convenient form for reference.

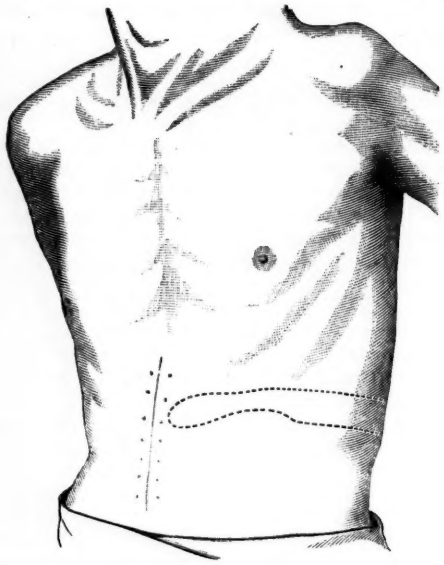
This paper will consider only the operation of gastrotomy where the stomach is free from adhesions and where the peritoneal cavity is opened before reaching the stomach. I consider it altogether unlikely that, under our present advanced surgical technique, and knowing the excellent prognosis which early gastrotomy offers, the removal of a foreign body from the stomach will be put off so long that adhesions will have time to form. The history of surgery records only twelve well-authenticated cases of this operation, and it was my good fortune to perform successfully the thirteenth.

CASE.—On the night of November 17, 1886, I was hastily summoned by Dr. Hugh Kinner to see a patient who had swallowed a table-knife. He was a healthy man, thirty-eight years of age, and had been entertaining his wife and children with tricks. He is an expert in the so-called sword-swallower's trick, having often in convivial circles introduced pokers, walking canes, the handles of kitchen utensils, and other long, smooth objects into his œsophagus. On this memorable evening, not having any other suitable instrument within easy reach, he took up an ordinary table-knife, a little more than nine and a quarter inches long, and quickly pushed it down into his gullet, the handle foremost. He removed his fingers from the blade for a moment, intending to hold the latter with his teeth. Just at this time, he afterward explained to me, something pulled the knife downward, and a few moments later it entered his stomach. He has told me since that the pain was not so great when he could keep quiet, and that his screams were due to his fright. When I entered the room the patient was having a spell of vomiting, which was repeated every minute, and there is no doubt that this paroxysmal vomiting caused him great pain. He had made up his mind that he had to die, and at first refused to permit an operation, on the grounds that he would die anyhow, and asked me for some morphine. Dr. Kinner and I, however, persuaded him in a few moments to get on an improvised operating-table, which Dr. Barck and Dr. E. Hauck, whom I had invited to come with me, had prepared. Dr. Barck kindly administered the chloroform. Less than one hour had passed since the knife had been swallowed. but having witnessed the violent attacks of vomiting I had serious misgivings, and thought that the stomach might have been perforated or at least seriously injured.

The patient had a wonderfully quiet narcosis which was easily kept up, one-third of a grain of morphine having been administered by hypodermatic injection simultaneously with the chloroform. The patient did not vomit during the entire operation, nor did the stomach show a single contraction, although it contained some beer and the remnants of a light supper, besides the knife.

I made an incision in the linea alba, five inches long, midway between the ensiform process and the umbilicus. The fascia transversalis was represented by a thick layer of fat. After opening the peritoneum, I introduced my hand into the abdomen and readily found the knife, which had assumed a transverse position so that the handle was situated near the pylorus, and the blade was in the fundus of the stomach, a little to the left of the vertebral column, exactly at the so-called angle of the ninth or

tenth rib (see figure). I rapidly felt over all sides of the stomach and assured myself that there was no perforation. I then turned the pyloric end of the stomach toward the incision, and, grasping the



handle of the knife, conducted it out of the abdominal incision, covered by the anterior wall of the stomach. The handle of the knife pushed the walls of the stomach out of the incision, and formed the centre-pole of a tent of which the stomach was the canvas. Next, I grasped the stomach with two "army" bullet forceps (Hegar's Kugelzange) one inch apart on either side of the knife-handle. I then made a straight incision between the forceps not over five-eighths of an inch in length, through which I extracted the knife with my fingers, after having pushed the stomach back on the handle one-half inch, so as to permit me to grasp the latter firmly. Not a drop of the contents of the stomach escaped; in fact, the incision was so small that as the knife was extracted all gastric fluids which might have adhered to it were scraped off.

By far the most interesting part of the operation, surgically speaking, was the suture of the small incision in the stomach. I employed exactly the same method which has served me well in one case of circular resection of the ileum and in two cases of suture of the gall-bladder. An accurate description of this suture with illustrations will be found in *Chips from a Surgeon's Workshop*, Chip No. IX., first published in the *Weekly Medical Review*, under the title of "Ideal Cholecystotomy," October 31, 1885. This method of suture is very similar to the one which was first employed by Billroth and Czerny in their operations of resection of the pylorus. I used the very thinnest kind of catgut for the first five sutures, which were only simple interrupted stitches embracing the peritoneum, muscularis, and perhaps some little of the submucosa (it was my intention to leave out the mucosa in all but one stitch). These were tied and cut very close. Although they were less than one-eighth of an inch apart the mucosa showed a tendency to interpose itself between the stitches, and great care was necessary to prevent this occurrence. I think this little accident would cause a failure of union, and, unless a row of Lembert sutures produced sufficient effusion of lymph to keep the stomach closed, the result would be fatal. Over the row of five stitches, which we intended to produce a direct union of the cut edges, a second row of eight Lembert sutures was applied. I used the very thinnest kind of Chinese silk, such as I was taught to use in harelip operations by the genial Gustave Simon, of Heidelberg. This silk is twisted, and, in my estimation, is much superior to the braided silk. It is very hard, and becomes but little thicker after being left in the tissues for several days. It differs in this respect from the braided or any other silk which has been treated by antiseptic fluids. I used the silk dry, as I always do. I purify it by exposing it to a dry heat of about 200° C. for several hours in an oven. These eight sutures completely buried out of sight the five catgut sutures, and left a smooth stomach covered all over by peritoneum. The sutures caused but very little bleeding, and the stomach was dropped back into its place immediately.

The last act of the operation was the suture of the external incision. This was closed by means of ten sutures which embraced all the layers of the abdominal parietes and about eight superficial stitches. A layer of bichloride gauze, made in Milwaukee, which is packed in such a manner that it is continually moist, was used over the incision, and this covered by a sheet of rubber tissue. The dressing was held in place by a ten-yard rubber elastic web-bandage, and was not touched for five days. The patient bore the operation well, the entire proceeding lasting but one hour. The patient was put to bed, and slept soundly all night.

The after-treatment was conducted by Dr. Kinner, who insisted on a very strict *régime*. He allowed the patient only a spoonful of water every two or three hours during the first four days. He was given large nutrient enemata of peptonized milk and beef tea. Wine and whiskey were also given per rectum, as it was feared that he could not bear the sudden withdrawal of all alcoholics. He was also given a hypodermatic injection of morphine every evening. He had no vomiting during the time he was confined to his bed, and only complained of a feeling of nausea when I introduced the thermometer into his mouth.

The only time that there was a rise of temperature deserving of mention was on the evening of the second day, when it reached 100° F. His pulse never reached 90, and pulse as well as temperature was permanently normal after the third day. I removed all the stitches on the fifth day; there was complete union by first intention. Hoffmann began to eat soups and beef-broth after the fifth day, and ate his usual fare after the tenth day, when he left his bed. I discharged him from treatment on the fourteenth day.

The table which is appended here requires no ex-

TABLE OF GASTROTOMIES FOR THE REMOVAL OF FOREIGN BODIES, IN WHICH THERE EXISTED NO ADHESIONS BETWEEN THE STOMACH AND ABDOMINAL WALLS.

Case, Sex, and Age.	Operator.	Foreign Body.	Time in stomach.	Condition before Operation.	Operation.	After-treatment and Remarks.	Final Result.
I. M. 22	SCHWABE, Baldinger's Neues Mag. f. Aertze, B. xiii., 1791, p. 67; Berliner klin. Woch., No. 7, 1883; Hartknock's Altes und Neues Preussen, 1684.	Table knife 6¼ in. long, 5-6 in. broad.	41 days	No serious inconvenience.	Incision 1½ in. below and parallel to ribs on left side. Stomach pulled out by means of a curved needle, cut through on point of swallowed knife. The incision "snapped shut" after knife had been extracted. Abdominal incision closed with five sutures; operation without anæsthetics.	External sutures removed on 2d and 3d days. Bloody urine and stools during first two days. Wound washed with wine; strict diet for two days, in which time wound entirely healed.	Patient for many years enjoyed perfect health.
II. F. 32	TILANUS, Ort. Diss. continua causum gastrotomiæ cet. Lugduni, Batavorum, 1853.	Silver fork, 8⅛ in. long, and some fragments of crockery, triangular in shape, largest piece being ⅞ in. in its greatest length.	3 days.	Very weak; great difficulty in swallowing. Diagnosis confirmed by sounding and by examination of region of the stomach.	Etherized. Incision in linea alba, 3 in. Stomach drawn up with two forceps and opening made into anterior wall, 1 in. in length, causing considerable hemorrhage. Search for fork and crockery very troublesome. Stomach was closed by 5 sutures, whose ends hung out of lower end of the abdominal incision, which was closed by ordinary suture.	Vomiting of a greenish fluid; pain and tympanites during the first 2 days. Feeble and high pulse during 2d day. Death on 3d day.	Post-mort. showed plastic material which caused adhesions between stomach, liver, and abdominal parietes. Gastric incision entirely closed. Stomach much distended. Upper third of œsophagus much lacerated and perforated opposite larynx. A pus sinus along lobe of thyroid.
III. M. 27	BELL, The American Journal of the Medical Sciences, July, 1855, p. 272.	Bar of lead 9 inches long, one-fifth inch in diameter	9 days.	No serious inconvenience at the beginning, on the 6th day vomiting and great prostration. Palpation failed to reveal the presence of a foreign body.	An incision beginning at second false rib, 4 in. in length, and in a direct line toward the umbilicus. A small incision was made into the stomach upon the bar of lead after extraction. Contraction of stomach closed the opening. Prolapse of some of the intestines during the operation. Abdomen closed by interrupted suture.	Symptoms of gastritis immediately after operation. Injections of morphine freely given; patient discharged in two weeks.	Complete recovery.
IV. M. 18	LABBÉ, Gazette Hebdomad, Deuxieme Serie, xiii (xxiii.) 18, 1876, p. 273.	Five-tined German silver fork.	2 yrs and 10 days.	No serious inconvenience for six months. Later on attacks of syncope and symptoms of severe gastralgia came on.	Futile attempts were made to cause adhesion between stomach and parietes, by means of external applications. Laparotomy parallel to ribs; incision less than 2 in. Stomach pulled out by forceps and attached to abdominal incision before opening. Fork extracted with polypus forceps.	A strong collodion cuirass was applied to the abdomen. Solid food after 5th day. Wound healed kindly, leaving a gastric fistula. Patient discharged on 15th day, a small gastric fistula remaining (purely gastrostomy)	Recovery. (It is not stated how long the fistula persisted.)
V. M. 37	KOCHER, Correspondenz-Blatt fur Schweitzer Aerzte, 1883, Nos. 23 and 24.	Piece of a broken instrument (a probang with bucket).	1 day.	No serious inconvenience.	Oblique incision ⅞ inch from edge of ribs. Stomach drawn up by two loops of thread. Incision in stomach over 1 inch long; was closed by 10 Lembert sutures.	Careful diet; no fever. Union by first intention.	Complete recovery.
VI. M. 19	GUSSENBAUER, Wiener medizinische Wochenschrift, 1883, Nos. 51 and 52.	Broken sword-blade, 10¾ in. in length. Point rounded off; broken end rough and jagged.	2 days	Great pain. Emetics and inversion of body tried at first. High fever, vomiting, and hiccough.	Blade extracted with great difficulty after a large opening had been made in stomach.	Death in two days; due to septic peritonitis.	Post-mortem showed that stomach had been perforated by the point, and œsophagus by broken end.
VII. F. 15	SCHOENBORN, Langenbeck's Archiv fur Chirurgie, B. xxix. p. 609.	Hair tumor, reniform and very hard.	About 4 years.	Vomiting; a freely movable tumor in the left hypochondrium could be felt.	Laparotomy in linea alba. Tumor lying loose, incision in stomach large and parellel and between the curvatures. Wound closed by 65 Madelung sutures.	Union by first intention. In three weeks she was discharged.	Complete recovery,
VIII. F. 17	THORNTON, Lancet, 1884, No. 3.	Hair tumor, weighing 2¼ lbs.	Several years.	An abdominal tumor was revealed by palpation. Patient very much emaciated.	Tumor filled entire cavity of stomach. Incision in stomach closed by several tiers of sutures.	A sponge was left in the abdominal cavity, but was removed on 28th day by reopening incision. Had double parotitis and concomitant fever.	Complete recovery.
IX F. 19	BILLROTH, Von Hacker, Magen Operationen in Prof. Billroth's Klinik von 1880 bis 1885. Vienna, Toeplitz & Deutsche, 1885.	Artificial denture, six teeth.	2 days.	But little inconvenience.	Incision 4½ in. along border of ribs and beginning at ensiform cartilage. Stomach held by two loops of thread and denture extracted through a small opening, which was closed by a number of ordinary external, interrupted sutures, and then these were buried by two rows of Lembert sutures.	The healing unaccompanied by any febrile symptoms. Left hospital 5 weeks after operation.	Complete recovery.
X. M. 24	CREDÉ, Von Langenbeck's Archiv für Chirurgie, B. xxxiii. p. 574, 1886.	Hard rubber denture; eight teeth and clasps.	15 days.	Vomiting and insomnia, accompanied by great nervous excitement.	Oblique incision, 5 in parallel to ribs and beginning at ensiform cartilage. Foreign body was found near pylorus. Incision in stomach 2 in. Three rows of sutures used.	No vomiting or febrile disturbances. 21 days after the operation, was discharged.	Complete recovery.
XI. M. 25	POLLAILON, Procédés de l'Académie de Méd., Aug. 24, 1886.	A fork.	A few days.	But little inconvenience.	Transverse incision, 7 c.m. long; stomach pulled out by two needles, incision 3 c m. long. Fork pulled out with forceps. Wound united with catgut sutures. Stomach replaced, external wound closed by 8 sutures.	Union by first intention	Complete recovery.
XII M. 27	RICHARDSON, Bost. Med. and Surg. Journ., vol. cxv., No. 24, 1886.	Artificial denture, 4 teeth and clasps.	11 mos.	Greatly emaciated; foreign body was situated in the lower part of the œsophagus, just above the cardia.	Oblique incision parallel to ribs. Stomach pulled out, and an incision made long enough to admit hand and forearm. Extraction of foreign body with fingers, considerable difficulty experienced before it could be brought through the cardia and into the stomach. Mucous membrane united by a continuous silk suture. The peritoneal surface united by 36 fine silk Lembert sutures.	Union by first intention, with exception of some stitch-hole suppuration.	Complete recovery.
XIII. M. 38	BERNAYS, THE MEDICAL NEWS, Jan. 1, 1887.	Silver-plated, metallic table knife, 9¼ inches long.	1 hour nearly	Frequent paroxysmal contractions of the stomach which, however, did not produce emesis.	5-inch incision in linea alba, between xiphoid cartilage and umbilicus. Stomach drawn up by two "Army" bullet forceps. Incision about ⅝ in., upon the handle of the knife. Gastric wound closed by five interrupted catgut sutures and then buried by 8 Lembert stitches, in one row. 18 sutures closed the abdominal incision.	Union by first intention. Fed per rectum; a little water allowed. No fever and no vomiting. Patient up and about ten days after operation.	Complete recovery.

planation. Nearly every one of the cases has some peculiarities of its own. The whole number of observations is so small that general deductions cannot be drawn. It is evident that these operations will always be among the rarest in surgery, only thirteen cases having been recorded in two hundred and fifty-one years. I think that they will be performed more frequently, since we have recognized that the rate of mortality is much smaller than was formerly expected. Credé says: "Formerly this class of patients perished almost without exception, because a successful result was not expected from surgical interference." The progress of surgery compels us to attempt relief in all these cases. The rate of mortality as computed from the above table is only ten per cent. It is safe to predict that it will be much reduced by future operations.

The distinctive features of my case, when compared with those previously recorded may be enumerated as follows. The length of time which the knife was allowed to remain in the stomach in my case is, by far, shorter than in any of the others.

The knife which was swallowed seems to be the longest foreign body which has been successfully removed by gastrotomy. The mishap occurred in the only imaginable way that it could happen, namely, by being deliberately pushed into the œsophagus, with the intention of performing a curious feat. Four of the ten cases previously recorded seem to have happened in this way.

The manner in which I performed the operation differs but little from the method employed by Billroth, Credé, and Kocher. These three operators chose the oblique incision parallel to the free border of the ribs. I can see no good reason for this, and searched the literature of the subject in vain for a *raisonnement* on this point. I have always been partial to the incision in the linea alba. In two out of four cases where I opened the abdominal cavity, the diagnosis being cholelithiasis, I made the oblique cut and in both cases found no gall-stones. In the other two cases the incision was made in the linea alba and gall-stones were found. In six cases of carcinoma ventriculi, where I intended to resect the stomach, I made the incision in the linea alba. I had no difficulty in rolling out the stomach, although in some the tumors were quite large. In all of these cases I had to close the abdominal incision, because the tumors were inoperable. The explorative laparotomy had no effect on the progress of the disease either for good or for evil.

A careful study of the cases recorded shows the curious fact that no two operators, thus far, have treated the incision in the stomach by the same means, excepting Cases I. and III., which were not treated at all, the incisions in the stomach, in both cases, being simply left alone to get along as best they might, aided by the natural contraction of the coats of the stomach. Both these cases recovered. We have reason to assume that the incisions in both cases were little more than punctures. At the present day we would apply one, two, or three Lembert sutures, even over a puncture. Where, in the last seven cases sutures were employed according to the principles of modern surgery, there is no uniformity of detail. Neither the materials used for the sutures, nor the manner of their application, are alike in all the cases. The operations were all successful, excepting the case of Gussenbauer, and in this one the autopsy clearly accounted for the failure. Under these circumstances I will not presume to recommend any particular kind of suture. It seems to me that the material of which the suture is made is of the least importance. Success depends here, as in all sutures which are designed to achieve primary healing, upon putting together only such tissues as are denuded of epithelium, or by virtue of their histological elements are capable of becoming adherent under the influence of a limited irritation.

I cannot allow this opportunity to pass by, without cautioning against the use of the continued suture under circumstances where tension upon the edges which we desire to unite may possibly occur. This practice cannot be too strenuously condemned. It is directly opposed to securing union. It does not fulfil the chief indication, viz., to keep the parts accurately approximated by an evenly distributed pressure.

The fact that my patient never vomited from the moment that anæsthesia began up to his complete recovery, remains as inexplicable to me as it does to Credé, who observed the same circumstance in his case.

In answer to the question whether the operation was performed with antiseptic precautions, I would answer that the room was not aseptic, the assistants were practitioners of medicine who were not especially disinfected for the occasion. I had taken a bath some three hours before the operation, but was not so carefully prepared as is my custom before an ovariotomy. The patient was in no wise prepared beyond having his abdomen hurriedly cleansed before I made the incision. The sponges and fluids used, as well as my instruments, were aseptic.

A REMARKABLE CASE OF LEAD POISONING.

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J. C., a maiden lady, aged forty, had had no illness of moment until two years ago. Previous to this time her health had been excellent. She had taken part in the ordinary duties of a household, her appetite had been good, and she had been able "not only to do her own work but that of others also." Within the last two years, however, she had suffered a gradual and increasing loss of strength. She had lost her appetite, her weight had diminished, and she had grown very nervous. Rest, tonics, and travel had done her no good, and she finally presented herself to the writer in a very disheartened frame of mind.

She presented the following symptoms: Along with her great nervousness and loss of appetite she suffered markedly from insomnia. She had also a constant itching of the skin, which at night became almost intolerable. At various places about the face and neck and under arms, small patches of eczema existed. The itching, however, was not confined to these patches, but appeared to be general. Her

weakness was extreme, very slight exertion causing fatigue. She also complained of intense backache, and the spine was decidedly tender to pressure. The knee-jerk was increased. In searching for motor disturbances, nothing was noted. The patient stated, however, that she had occasionally slight cramp in the flexor muscles of the right forearm. There was, too, no impairement of sensation anywhere, although the patient complained of a numb feeling in the right arm.

The case thus far presented little else than symptoms of a general neurasthenia. The fact, however, of her previous good health and of the absence of any mental or physical strain preceding the trouble, indicated some deep-lying cause as being at the bottom of this profound disturbance of nutrition.

Further questioning elicited a history of indigestion, together with constipation, although the latter was not especially marked. She also complained of an irregularly recurring pain or cramp in the abdomen. This evidently did not occupy a very prominent part in her notion of her trouble, and had never been severe enough to suggest the use of anodynes. An examination of the gums revealed a faint blue line in the neighborhood of one of the lower canines. It was so faint, however, as to render its significance doubtful.

In order to decide absolutely the question of lead poisoning, an examination of the urine was determined upon, and a quantitative analysis was made by Dr. John Marshall, Demonstrator of Chemistry in the University of Pennsylvania. He made the following report: "I employed 400 cubic centimetres of the urine, and obtained a globule of lead which weighs 5.2 milligrammes (0.0052), equal to 0.0013 per cent. of metallic lead. This is by far the largest quantity of lead I have ever found in an equal amount of urine,—an enormous percentage as such things go."

Dr. Marshall also kindly gave me the results of several other quantitative analyses of the urine of cases of lead poisoning, which are as follows:

In one case he found, in two litres of urine, an amount of lead insufficient to weigh. In another he found 0.0002 per cent. of lead, and in still another only 0.00017 per cent. These results are, therefore, far below the amount in the present case.

Upon one occasion the patient brought a pillow-case upon which was a dark stain an inch and a half or more in diameter. She said that she had taken an afternoon nap, and that while asleep, some saliva had dribbled from the mouth, and that several days afterward the stain had turned dark. Dr. Marshall pronounced the stain as due to sulphide of lead. She also at another occasion brought with her a baby's sock which she had been knitting, and, strangely enough, the sock had, after a time, turned dark. This discoloration likewise proved to be due to sulphide of lead. She stated that for a time past all of her knitting had turned dark in a similar way. Some time—several days—had always elapsed before the stain made its appearance.

It should be stated that at one of her visits she had complained of a decided metallic taste.

The patient was placed upon iodide of potassium, in doses equalling a drachm a day. Rest, massage, and faradism were likewise employed. She bore the iodide remarkably well. The cramps of the bowel rapidly grew less, and finally disappeared, as did also the constipation. Curiously enough, however, the metallic taste became, for a time, more pronounced, as did also the itching of the skin. The patches of eczema too increased in size, and for a time constituted one of the most annoying features of the case.

However, the neurasthenic condition rapidly improved. Sleep, appetite, and general strength became decidedly better. After four months she had gained decidedly in flesh. The itching, too, though at first somewhat worse, had disappeared, as had also the metallic taste. She then, though still taking the iodide, took a trip to the country.

At present writing, some eight months after first presenting herself, she is convalescent from a severe cold. For about six weeks the iodide has been omitted. The trace of blue line upon the gums has entirely disappeared. The only symptoms present are rheumatoid or gouty pains in the muscles of the chest-wall, and a slight pain in the left hip. It is probable that these pains are dependent upon the attack of cold, but it is possible that they constitute an "after-clap" of the lead.

Regarding the source of the poison, the investigation, though diligent, was fruitless. The drinking water was analyzed with a negative result, as were, also, two samples of face powder, the only brands the patient had ever used. No hair-dye had ever been employed. Again, the patient said that some white silk that she had been using for years had a sweetish taste, and that she had been in the habit of biting off the ends; but an analysis of a sample likewise yielded a negative result. It should be stated, also, that none of the other members of her family, living presumably under the same conditions as herself, presented, so far as could be ascertained, any symptoms of lead-poisoning.

The remarkable features of the present case are, first, the enormous amount of lead present in the tissues; and, secondly, the paucity of *specific* lead symptoms. The *itching of the skin* also deserves particular attention, as it was probably directly dependent upon the excretion of the chloride of lead by the skin.

POISONING BY LEAD CHROMATE (CHROME YELLOW) USED FOR COLORING CAKES.

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I HAVE recently had occasion to examine samples of urine from patients manifestly suffering from lead poisoning, detecting lead in every case, and in whom I was able to eliminate all of the ordinary sources of poisoning from water, canned goods, and ordinary house supplies. In conversation with a large wholesale druggist, I accidentally learned that

chromate of lead had been purchased of him in considerable quantities by persons whom his clerks recognized as bakers. He was unable to furnish me with the names and addresses of these persons, and accordingly a search was instituted among the bakers in the neighborhood of his shop. In all twenty-six shops were visited, and samples of the yellowest cakes obtainable purchased; from eight of these shops, tea-buns, also, were purchased. These samples were subjected to the following treatment: The inner portions of each were dried, pulverized, and mixed with a ten per cent. solution of sodium hydrate (*free from iron*), placed in a test-tube and heated to about the boiling point. In the presence of lead chromate a brownish to black coloration is produced. This reaction is dependent upon the action of the sodium hydrate upon the albuminous materials in the cake, with a resultant liberation of sulphur, which unites with the alkali to form sodium sulphide, which latter reacts upon the lead chromate, which had been dissolved by the caustic alkali, to form (black) lead sulphide. The intensity of the coloration is, of course, dependent upon the quantity of the lead present. Care must be taken that the caustic soda is free from iron, otherwise black iron sulphide will, in any case, be formed. Iron present in the cake as a result of the use of rusted kettles or pans will not interfere with the test, only freshly precipitated ferric hydrate or iron in solution having such action.

A convenient modification of this test may be employed. The dried and pulverized cake may be gently warmed with sodium hydrate, in order to dissolve the lead chromate, without going so far as to decompose the albumen present. Either sodium sulphide or ammonium sulphide may now be added, and lead, if present, will be detected by a brownish or blackish coloration of lead sulphide. By either of these tests one one-hundredth of one per cent. of lead chromate may be detected in the dried and pulverized cake.

Only in cakes obtained from four out of the twenty-six shops visited was any lead found. In all four of these places lead was found in the tea-buns purchased, and in the bright yellow pound cakes obtained in three of these places it was also found. The tea-buns were pale yellow in color, and although special tests for chromium were not applied, it is to be taken for granted that the lead was present as the chromate, inasmuch as no incentive exists for the baker to introduce lead in any other form. As the chromate it, of course, replaces the far more expensive yolks of eggs.

It was learned that vegetable coloring matters were also largely employed, but on account of their relative high cost and low coloring intensity as compared with the metallic pigment they are viewed with less favor by the unscrupulous baker.

The use of lead chromate for coloring tea-buns is not recent. In England years ago it was used for that purpose, and very likely even at the present time such use is made of it in that country.

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December 13, 1886.

A CASE OF SUDDEN DEATH FROM THE INTRODUCTION OF AN ASPIRATOR NEEDLE.

BY J. C. REEVE, M.D.,
OF DAYTON, OHIO.

THE subject of this report was a man twenty-three years of age. He had been ill for six weeks under the care of Dr. W. J. Conklin, of Dayton, and latterly had been seen several times in consultation by Dr. J. H. Rodgers, of Springfield, Ohio, a relative. The leading symptoms of his illness had been fever, sometimes ranging up to 103.5°; chills, some of which were severe, but irregular as to time of recurrence; attacks of vomiting, and right dorsal decubitus. Examination showed enlargement of the liver, which increased notably toward the last, and there was tenderness of the epigastrium and right hypochondriac region. The diagnosis was abscess of the liver. I saw him, in consultation, on the 14th of December, concurred in the diagnosis, and gave full assent to the proposition to aspirate the liver. The time of operation was fixed on the following day. At the time appointed Dr. Conklin was engaged with an obstetrical case, and I was requested to operate, and proceeded to do so, Dr. Rodgers and Dr. H. C. Conklin being present. The particular time of operation had not been made known to the patient until after we entered the room. He did not seem at all alarmed, but asked if we would give him an anæsthetic. I told him that the insertion of the needle was too trifling a matter to need that, and as he expressed no anxiety or alarm, we did not resort to any local anæsthetic. He was, of course, feeble from a long and severe illness, but changed his position and assisted in raising his clothing. A point had been selected for the puncture a little over an inch to the right of the median line, and not quite two inches below the margin of the costal cartilages. While there was no bulging at this point, yet it was the seat of more pain and tenderness than elsewhere, and there was dulness on percussion all around. I took a medium sized needle of the aspirator and thrust it in at this point, upward and backward, to a depth of about three inches. As the stop-cock was turned, and I looked to see if pus appeared, my attention was attracted by the heavy breathing of the patient; I looked at his face, saw the head drawn to the left, the eyes turned and fixed, a slight convulsive tremor passed over his features, which bore the plainest impress of death. I found his pulse gone; no movement of his heart could be felt. After a brief interval of entire cessation of breathing, he drew one deep inspiration, which was the last manifestation of life. I should estimate the whole time from the puncture of the needle until he was gone at not over one minute and a half.

A partial post-mortem examination was made the next day. Upon opening the abdomen the liver was seen to be enlarged, reaching down to the level of the umbilicus. The puncture of the liver by the needle was plainly visible, surrounded by a small patch of ecchymosis. Upon lifting the organ up to remove it, an abscess of the right lobe gave way upon the under side near the centre, from which

eight or ten ounces of pus escaped. The heart was, in appearance, healthy. The right auricle was extremely distended, and there was a difference of opinion as to whether its walls, and those of the right ventricle, were not considerably thinner than usual. In texture the organ was somewhat softer than normal, tearing easily. No microscopic examination was made. The valves were normal.

This case is not unique in medical records, yet it is one of deep interest, and especially in regard to the action of anæsthetics. It is useless to speculate upon what might or might not have been done. I cannot, however, abstain from expressing one or two convictions. First, that under full anæsthesia this man would not have died at the time and in the manner that he did. Second, that with *partial* anæsthesia, his death would have occurred as it did, and gone to swell the list of casualties from anæsthetics. He evidently died from inhibition of the heart's action, the impulse being transmitted from the puncture. The mode of death was precisely similar to those which have occurred from tooth drawing under chloroform when movements of the patient, etc., were proof that the anæsthesia was not profound.

CASE OF INTESTINAL OBSTRUCTION IN AN INFANT CAUSED BY THE INGESTION OF WOOL.[1]

BY WM. R. WHITE, M.D.,
OF PROVIDENCE, R. I.

I WAS called at 1 A.M., February 12, 1884, to see E. H., a girl twelve months old, whom I had never seen previously. Her mother gave the following history: The baby had been vigorous and healthy in every respect from birth, and had developed rapidly, being able to walk unaided and to talk considerably. Her only nourishment had been breast-milk, except now and then a little bread or cracker. She had never had any intestinal trouble until now. There had been no evacuation of the bowels for the last two and a half days, and for the last twenty-four hours the child had been very restless and uncomfortable, not sleeping, refusing to nurse, and evincing abdominal pain. To relieve her, the mother had given no medicine whatever, but had tried several enemas of molasses and water, but with no avail. The last one, administered the evening previous, had caused a severe convulsion, which, however, was not of long duration. The urine had been voided naturally, and there had been no vomiting, but frequent retching and eructation. I first saw the child about five hours after the occurrence of the convulsion already referred to, and found her lying awake, but quiet, on the bed. She was not feverish, and evidently not in severe pain. The abdomen was slightly protuberant, but neither tympanitic, unduly tense, nodular, nor tender on palpation. There was no evidence of thoracic or cerebral trouble. When asked particularly if the child had swallowed any foreign substance or any unusual or indigestible matter of any kind, the mother gave a *confident reply in the negative.*

I offered no special diagnosis, but from the appearance of the patient and the history of the case, ventured the opinion, that a prompt and thorough evacuation of the bowels would effect a cure. So far as could be ascertained, the enemas had been properly administered, and had not only failed to give relief, but had undoubtedly been the exciting cause of the convulsion, hence, it was thought best to discontinue that line of treatment.

I at once gave the child a powder containing two grains each of calomel and sugar, directing that the same dose be repeated in a few hours, if necessary. The effect of the single dose was, however, wholly satisfactory, as I was told, on visiting the case the next afternoon, that the little patient had seemed no worse during the remainder of the night, and that between 8.30 and 10 o'clock, A.M., there were four copious and painless dejections, composed partly of normal fecal matter, with which was mixed up a large proportion of *masses* of *wool fibres*, of which the quantity was so great as utterly to astound the mother. She at first did not recognize the nature of the foreign substance, but on detecting unmistakable pink and blue fibres among the rest, the case became clear to her mind at once, as she then remembered having often seen the baby picking at the fleece of the soft woollen blanket on its bed, and that she had more than once removed wads of these fibres from the child's mouth, but had no idea that any had been swallowed.

The dejections had been already disposed of in the water-closet, so the writer could only judge of the amount of wool they contained by the estimate of the mother, who affirmed it to be at least as much as she could hold in her two hands.

The baby was then running about the house, bright and well as usual, and there were no signs of intestinal trouble subsequently.

[1] Read before the Rhode Island Medical Society, December 16, 1886.

THE GALVANOCAUTERY IN THE TREATMENT OF PAPILLOMA OF THE LARYNX.[1]

BY ALEXANDER W. MACCOY, M.D.,
OF PHILADELPHIA.

SINCE the advent of cocaine, the field for the successful use of the galvanocautery has been immensely widened. While many other destructive agents used in intranasal and laryngeal surgery have had their scope enlarged by the discovery of the anæsthetic action of cocaine, the advantage has not been so marked for them, as they were already in general use while the use of the galvanocautery was limited.

It goes without argument that the galvanocautery had already become a most efficient agent in the cure of chronic inflammations of the nasal chambers, nasopharynx, and pharynx, before the discovery of the properties of cocaine. It is also well known that morbid action causing growths in the larynx which required destructive agents had been almost entirely treated with forceps, caustic, etc. So far as the literature shows, workers in laryngology, with a few exceptions, made use of every other means before the galvanocautery was tried—many "damning it

[1] Candidate's thesis for membership in the American Laryngological Association, session of 1886.

with faint praise," while others utterly condemned it. That it should have been condemned some years ago as a dangerous and cumbersome means of accomplishing the destruction of tissue in the larynx is not to be wondered at when we consider its lack of adaptability at that time. The galvanocautery has passed through an extraordinary evolutionary period since the diseases of the nasal passages have been studied under new light and pathology. What was, a few years ago, heavy, awkward, and unfit in construction—including battery, handles, and electrodes—for intranasal and laryngeal application, has now become delicate, adaptable, and light. This applies particularly to handles and electrodes. The battery, once uncertain and vexatious, requiring one or two assistants in its use, is to-day simple in construction, always ready, and requires no assistant—being worked by the foot of the operator. Contemporaneous with the latter part of this period of evolution came the drug necessary for fully and perfectly preparing the surfaces and making the contact of the incandescent point painless and precise. We are now, in my judgment, living in "times that are ripe," where all the conditions necessary for success in the use of the galvanocautery in the larynx are present.

During the last few years, it has been my fortunate experience to have had under observation some cases of laryngeal papilloma, in which I could contrast the beneficial effects of a number of plans of treatment. At the beginning of the study of these cases, my bias was strong for the employment of the forceps, blunt and sharp. While these instruments were usually efficient in the removal of these growths, the well-known habit of their recurrence always made the treatment laborious and of long duration. Indeed, in several instances, their reproduction and tendency to spread were so active that nothing appeared gained after weeks of assiduous attention. With chromic acid I had indifferent success in getting rid of the *tendency* to spread or increase, until I used the laryngeal applicator devised by me.[1] But even this device is better adapted for the application to small sessile points and *small* growths in the anterior commissure of the vocal bands, etc., than to large, diffused masses, or cases where the growth is more defined, single or otherwise.

In the galvanocautery I had my greatest expectations realized, not only in the marvellously rapid disappearance of the papillomatous masses, but chiefly in the fact of the change of conduct of the tumors as to their persistent inclination to grow again. This point appears well established, while giving due consideration to the natural history of these growths in their ability to cease development and disappear after a certain time of growth or reproduction. While this fact appears clear to me, I am not of the opinion that the use of the galvanocautery applied with the usual knife, loop, or button would effect a more permanent result than some other agents, but that the result only becomes permanent when the electrode is so formed as to be able to penetrate to the heart or base of the mass, and there cause destruction to the nutritive and vascular supply of the papilloma. I have, therefore, employed a finely pointed electrode (Fig. 1), insulated well down the

FIG. 1.

point, and covered with some material impervious to moisture, and perfectly smooth. It is understood that the electrode is made of copper wire in the lightest manner, rendering it flexible and easily bent at any angle. With an electrode so constructed, I have found it possible to destroy growths very difficult of access with ordinary forceps, and, in some cases of subglottic growths springing from underneath the vocal bands, and seen only on deep inspiration, I have been enabled to destroy them completely by the use of this sharp-pointed electrode curved so as to reach the mass to be destroyed.

The hard-rubber handle generally used was found entirely too heavy for delicate work, either in the nasal chambers or larynx, and, after some experimenting—also utilizing what others had worked out—I made use of a very light handle, and Dr. Starr's improved connections (the binding posts placed in the middle of the handle instead of at the end, and the conducting cords made fast by a spring to the handle in such a manner as to allow the handle to work upon a hinge, as is well known).[1]

FIG. 2.

An instrument (Fig. 2) was thus formed which enabled me to apply the point in the most difficult places and in a very delicate manner. The Seiler-Flemming battery, single or double, with latest improvements, has proven invaluable to me. The activity of the battery should be at its greatest when the galvanocautery is to be used in the larynx. A perfectly *white* heat is necessary, and must be so quick in action as to render the surrounding tissue more safe from injury than would a dull red. An electrode at a "cherry red" has no more use in the larynx than in the nasal chambers. I have found the reaction very insignificant, and although I have applied an electrode point to a growth repeatedly at the same sitting, I have never had any acute œdema, great swelling, or much soreness following these applications. This is due chiefly to two conditions: first, the point is buried in the growth before the current is allowed to flow; and second, the action

[1] Figured and explained in THE MEDICAL NEWS, November 7, 1885, p. 528.

[1] This handle has been adapted by Mr. Otto Flemming, the well-known manufacturer of electrical batteries, etc., of this city, for galvanocautery use. The former handle weighed nearly three ounces, while this one is only three-quarters of an ounce.

at white heat is so rapid that the contact need be but for a few seconds at most, and no heat is distributed to surrounding tissue. Applied in this way, no surface is denuded, no wounds in contiguous tissue occur to form niduses for new growths.

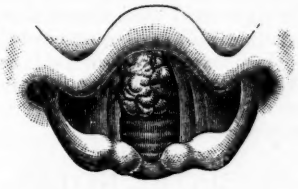
The practical details of this method are, in my experience, few, but these few have to be carefully followed. Less than a twenty per cent. solution of cocaine has not proved satisfactory to me in getting complete anæsthesia of the larynx. With a twenty per cent. solution complete quietude is obtained. With renewals of this solution at intervals of from ten to twenty minutes, this condition can be maintained for at least one hour. After operating, the spasmodic action becomes more pronounced, and, when a certain time has elapsed, or a certain amount of interference has been tolerated, the irritability becomes so great as to preclude all further procedure at that sitting.

The external covering of the electrode must be smooth, or, in spite of the cocaine, spasmodic action will arise, as the shank passes over the free edge and under surface of the epiglottis. Until I worked out this problem for myself, I often failed to obtain proper access to the larynx, because of the spasm for which I could not fully account. It is, therefore, advisable to cover the silk insulating the copper wires with a thin rubber tube—a small drainage tube, or the rubber tissue used by dentists, or isinglass silk plaster, which is only impervious to moisture for a short time, but very well adapted to the purpose, and easily applied.

The effect of the galvanocautery upon a papilloma is to change it to a pale or whitish mass, rendering it even more friable than it is naturally; sometimes quite a considerable portion of the tumor comes away, adhering to the electrode. Aside from some additional redness, the interior of the larynx shows no abnormal state. After several days the destroyed mass has separated, and, if necessary, another application can be made; the soreness or pain following is insignificant.

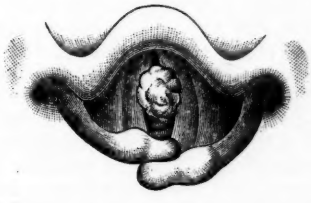
The following case fairly illustrates the advantages claimed for galvanocautery over other treatments in papilloma of the larynx. During the early part of April, 1885, F. W., male, æt. twenty-eight, applied to me for relief for a loss of voice. His history is as follows: In May, 1883, he first noticed that he could not sing low notes (B flat); his voice was uncertain, and often failed him; he had not noticed any cold. He could not sing bass (his customary part), but could easily sing in tenor register. This condition continued during the summer. In September, 1883, he began to notice that his speaking voice was growing hoarse and getting weaker; had a short cough. Continued hoarse all winter. In April, 1884, he went to a medical clinic in this city, where he was examined, and an opinion given that he had paralysis of the left vocal band. He spent the summer of 1884 at the seashore, his voice constantly growing thinner and weaker. Lost flesh, but appetite continued good; tried electricity. During the winter of 1884–85 his voice still continued growing weaker; finally, a stoppage in his breathing occurred when asleep, awaking him with a start, and a long, stridulous inspiration followed. Any exertion was followed by obstructed and difficult breathing. This state of affairs continued until his voice was reduced to a whisper, and a feeling of suffocation was often experienced. In April, 1885, he came under my observation. Laryngoscopic examination showed at once the cause of all his difficulty. The appearance of the interior of the larynx is faithfully portrayed by Dr. J. Madison Taylor, in the accompanying pictures (Figs. 3 and 4). The left vocal band and

FIG. 3.



the arytenoid were seen to be immovable upon phonation, remaining abducted; paralysis of the lateral crico-arytenoid and arytenoid muscles; the right vocal band was only partly visible, being obstructed in its middle and anterior portion by an overlapping tumor of irregular outline, and of a pale red color. It was quite bulky, and appeared to spring from beneath the vocal band. On phonation, the growth in part appeared between the vocal bands, and prevented free movement of the right side. This tumor was first attacked with forceps, after a twenty per cent. solution of cocaine was applied. The larynx was unusually deep-seated, so to speak, and the ordinary right-angled forceps of Mackenzie were too short, only a small portion of the growth being torn

FIG. 4.



off. No more of the mass being obtainable by forceps of the usual length, forceps an inch longer were made. These were more efficient in reaching the growth, but what was gained in length was lost in power, and while a considerable portion of the tumor was removed, no perceptible gain was made, as the papilloma seemed to grow as fast as it was removed.

After many attempts to use forceps of other shapes, guillotine, and snares, I abandoned all these, and began treatment with the galvanocautery point. The tumor had now grown to greater dimensions than when first seen. The larynx being fully anæsthetized by cocaine, a pointed electrode covered with rubber was easily introduced, and the point pushed well into the papillomatous mass; connec-

tion was then made, and after a few seconds the point was withdrawn, showing the mass in part a whitish color. Considerable shrinkage took place in the tumor, and no unpleasant secondary complications whatever followed. These sittings were continued until the mass was reduced to a mere thickened outline underneath the vocal band; this was finally removed. Patient's condition began at once, and continued, to improve; his voice improved as the growth grew less, and changed from a deep hoarseness to its natural tone. To-day his voice is fully restored, but not quite pure; it would be perfect, if it were not for the paralysis of the left vocal band. The right vocal band is normal in color and perfect in outline, no loss of substance being noticed anywhere. In phonation the right side over-rides so much to the left that the immobility of the left is fairly compensated.

1417 WALNUT STREET.

HOSPITAL NOTES.

MATERNITY HOSPITAL OF PHILADELPHIA.

Service of DR. BARTON C. HIRST.

SUCCESSFUL DELIVERY BY THE FORCEPS OF A LARGE HEAD THROUGH A SMALL PELVIS.

K. S., primipara, æt. 19, was admitted to the Maternity Hospital in the month of September. The measurements of the pelvis, taken at that time, were as follows:

Distance between iliac spines	25¼ cm.
" " " crests	26 "
External conjugate diameter, Baudelocque's	18 "
Internal " " diagonal . .	10¾ "
True internal conjugate diameter (estimated)	8¼ "
Distance between trochanters	29 "

Labor began at 1 P. M., October 4th; at 5 A. M., October 6th, or forty hours after the os had begun to dilate, the woman was in great pain, and was much exhausted. A contraction-ring (the upper margin of lower uterine segment) was plainly visible not far below the umbilicus. An examination showed that the os was about three-quarters dilated, and that the child's head was pretty firmly fixed at the superior strait, in the second position (R. O. A.). The patient was anæsthetized, the forceps applied with some difficulty, and after almost two hours of vigorous but intermittent traction, the child was delivered, deeply asphyxiated; every known method was used for its resuscitation, and finally, at the end of thirty minutes, regular respiration was established. The child is at present (October 29) alive and well. The measurements of the head were as follows:

Occipito-frontal diameter . .	12¾ cm.
Occipito-mental " . .	14 "
Biparietal diameter	9¼ "
Circumference (occ.-front.) . .	36½ "

The bones of the skull were unusually firm and unyielding to pressure. With the exception of a rather extensive laceration of the cervix, the woman was uninjured, even the perineum being found intact; the puerperium was normal in every particular.

Remarks.—The fortunate termination of this labor, both for the mother and child, was rather extraordinary in view of the marked disproportion between the size of the head and that of the pelvis, and while the application of the forceps to the head before it had become completely engaged in the pelvis, and before the cervix was fully dilated, may be unfavorably criticised, yet it was justified by the imminent danger, not only of the formation of sloughs from the prolonged pressure of the child's head upon the maternal soft parts, but also of rupture of the uterus.

MEDICAL PROGRESS.

AN INVESTIGATION TO DETERMINE THE PROPRIETY OF OÖPHORECTOMY was undertaken nearly a year ago by the Liverpool Medical Institution, and its conclusions are of interest in view of the frequent performance of the operation in America.

The committee reported as follows:

"That the cases submitted to 'ovariotomy' were fit and proper, and that the operation was done successfully; that the operations for 'exploratory incision' were justifiable; that the operations for 'oöphorrhaphy or the replacement and fixation of prolapsed ovaries' were insufficient in number to enable the committee to form a strong opinion for or against the proceeding, but that the relief afforded by the operation was by no means clear and decided; that sufficient care and discrimination had not been exercised in the selection of cases for spaying, and that in many instances the gravity of the symptoms was not such as to have justified abdominal section of any kind; that in ordinary cases of pelvic hæmatocele spaying is not to be recommended; that the reports of the cases in which spaying was performed for 'bleeding myoma' 'signally fail in giving any description of the size and character of the myomata, or of the state of the uterus when the abdomen was opened at the time of the operation;' and that certain patients were reported as cured when the patients themselves stated that they still suffered from hemorrhage. The committee further finds that of ninety-two patients submitted to the operation of spaying, fifty-nine were between twenty and thirty years of age, and seven were only between seventeen and twenty years; that a considerable proportion of the subjects of it suffered a distinct loss of sexual feeling, and to such an extent as to cause serious domestic unhappiness in not a few instances; and that some of the patients complained of such a loss of physical energy and spirit as prevented them from discharging their ordinary household or other duties as they did before the operation. Many of the patients suffered from hernia in consequence of the operation. Many were distinctly and probably permanently benefited, while nearly an equal number experienced no decided and lasting benefit, while in some the operation proved injurious. The committee finally recommends that no patient should be spayed by any officer without consultation with a colleague, and that the patients should be clearly informed of the nature of the operation and its possible consequences; for the committee say that the patients examined by them very generally denied that sufficient information—or, indeed, any information at all—was given them respecting what was proposed to be done to them."—*The Lancet*, December 18, 1886.

TREATMENT OF PURULENT OPHTHALMIA OF THE NEWBORN.—DEHENNE divides these cases into two classes: simple ophthalmic catarrh and purulent ophthalmitis. The former the writer treats as follows:

Applications by camel's-hair pencil, once in two days, of solution of nitrate of silver, 1 to 100, which should be immediately followed by an application of saline solution; this should be done by the physician himself.

The daily use of a solution of atropia, five or six drops, in strength 1 to 400.

Lotions of cold camomile water.

Evacuation of pus and mucus by syringing with boric acid, 1 to 30, every three hours.

In purulent ophthalmia, the closest care of the child is needed night and day. The unremitting application of ice or ice-water is required, and pencilling with nitrate of silver solution, 1 in 40, twice daily, followed by the careful use of the saline.

Silver must not be dropped into the eye or used in the solid. If benefit follows the pencilling, it should be done once only in twenty-four hours.

Four times daily the following collyrium:

Eserinæ sulphat. neutral. . . .	gr. jss.
Aquæ destill.	℥viij.

When perforation of the cornea has occurred, eserine limits necrosis and gives a better field for subsequently forming an artificial pupil.

The eye should be syringed with solution of boric acid, 1 to 20, hourly.

After the secretions have been removed, a very small amount of a mixture of bichloride of mercury and vaseline, 1 to 3000, should be placed between the lids.

Collyria containing metallic salts should not be used. —*L'Union Médicale*, December 2, 1886.

TUMORS OF THE BLADDER.—At the last meeting of the London Clinical Society SIR HENRY THOMPSON contributed a paper on tumors of the bladder, in which he gave a brief sketch of six cases in which he operated during the last twelve months, showing the parts removed in each case. In three the suprapubic operation was employed; in two the perineal incision only; and in one, that of a female, urethral dilatation was sufficient for the purpose. It may be added here that in two cases the result is without doubt a complete and permanent cure. In two others the disease, although known to be considerable, was more so than might have been expected from the preliminary examination, and death, in each case imminent, was in one certainly, perhaps in both, postponed for a short time. In each the operation was undertaken only with the view of palliating the patient's condition, not of saving him; removal of the growth, so far as this was possible, being the only mode of arresting severe and continuous hemorrhage. The remaining two cases are of recent date, and it is only possible to say that the patients have thus far progressed satisfactorily.—*The Lancet*, Dec. 4, 1886.

TREATMENT OF DIABETES MELLITUS.—In a communication to the *Practitioner* of December, 1886, DR. ROBERT SAUNDBY gives the results of his experience in the treatment of this disease.

His diet list includes meat soup, beef-tea, fish of all kinds, butcher's meat, poultry, game, cheese, green vegetables, gluten bread, custard, jelly, blanc mange, tea and coffee; eggs, milk, cream, macaroni, vermicelli, wines and liquors must be taken with strict moderation.

A small amount of fat is allowed, and cod-liver oil benefits some patients. As a substitute for sugar saccharin is used, and occasionally glycerine.

Mildly alkaline waters, with or without lemon-juice, and distilled waters, are drunk. Opium, the writer considers the most valuable drug known in the treatment of diabetes.

In coma copious alkaline enemata and strychnia hypodermatically given are the only means of treatment indicated, and the author has seen very limited success in their employment.

A PRESCRIPTION FOR MIGRAINE.—The following is the formula of DUJARDIN-BEAUMETZ:

℞.—Ethoxycaffeine	gr. xij.
Sodii salicylat.	gr. xv.
Aquæ dest.	℥ijss.—M.

Sig. Dose from five drops to teaspoonful as indicated.—*Les Nouveaux Remèdes*, December 8, 1886.

POMEGRANATE ROOT IN INTESTINAL AFFECTIONS.—MR. EDWARD NICHOLSON, in a paper read before the Liverpool Medical Institution, calls attention to some little-known properties of pomegranate root. His experience with it has been mostly with young children in India. He found that whenever a young child lost its appetite, had more or less irregular bowels and a somewhat tumid belly, was peevish by day and restless at night, when it was wasting, and the symptoms were negative as to worms or fevers, decoction of pomegranate root invariably effected a cure. The symptoms were mostly found in children about two years of age, but might occur at any time up to seven years. No particular dietary was found necessary. He has since found the drug equally efficacious in similar conditions in children in England. He has usually given the decoction in ounce doses, three times a day, and has never seen any toxic effects from its use. In certain obscure diseases in adults, where there was cachexia with evidence of abdominal disturbance, he has also found the pomegranate root serviceable.—*Practitioner*, November, 1886.

THE PATHOLOGY OF ADDISON'S DISEASE.—RIEHL agrees with Nothnagel in the belief that the pigment which characterizes this disease is not contained in the *rete mucosum* as an integral part, but that it is found in wandering cells which convey pigment from the blood. These cells the author found in extravasated blood which escaped through diseased bloodvessels, often in thrombi. Masses of red blood-corpuscles were observed near the pigment cells.

Disease of the bloodvessels is the primary lesion, the coloring matter of the extravasated blood is absorbed by wandering cells and those of the *rete*, while a portion of the pigment enters the lymphatics.—*Centralblatt für die medicinischen Wissenschaften*, Nov. 27, 1886.

TREATMENT OF MARSH FEVERS BY ARSENIATE OF SODA.—DR. ROCHARD observes that since the expedi-

tions of the French to Tonquin, Madagascar, Senegal, and Panama, there have been a great number of obstinate cases of marsh fever and malarial cachexia met with in France, especially in Paris. Quinine in large doses had been found to make very little impression upon them. Arseniate of soda, in doses of one milligramme (= $\frac{1}{70}$ gr. Eng.) after food, with hydropathic treatment, exercised beneficial control. If the attacks were regularly periodical, the dose was administered eight or ten hours previous to the access.—*The Provincial Medical Journal*, December 1, 1886.

A NEW LOCAL ANÆSTHETIC.—Drumine is the title of a new Australian local anæsthetic discovered and described by DR. JOHN REID, of Port Germein, South Australia. Euphorbia Drummondii is the species from the milky juice of which the alkaloid drumine was prepared. Cocaine is known to have a mixed action on sensory and motor nerves, and causes preliminary excitement; whilst drumine is said to have an almost purely sensory paralyzing effect, and does not cause excitement. Experiments were made on cats, and on the observer's tongue. It was injected into the legs of the former animals, and caused general dulness, with marked impairment apparently of all forms of sensibility. Placed on the tongue, nostrils, and hand of the observer, the resulting anæsthesia was most marked. The alkaloid has no action on the pupil, and small doses given internally produce no constitutional effect. It has been employed successfully in subcutaneous injections for sciatica and sprains. The experimentation has so far been imperfect and incomplete. We hope soon to have a fuller account of this new alkaloid, and to be able to give further information thereon. The amount injected subcutaneously was four minims of a four per cent. solution. Dr. Reid anticipates a brilliant future for the drug in the domain of nervous and cerebral diseases.—*The Lancet*, December 18, 1886.

LANOLIN MERCURIAL OINTMENT.—The following is the formula of LIEBREICH:

Mercury	100 parts.
Lanolin	25 "
Mercurial ointment	5 "

Rub thoroughly together, and mix with 50 parts of mutton suet, to which, when melted, 175 parts of lanolin have been previously added. An elegant and smooth preparation results, without disagreeable odor.—*British Medical Journal*, December 11, 1886.

APERIENT WINE.—The formula of MONIN, as given in the *Progrès Médicale*, is as follows:

℞.—Tinct. calisayæ,
Tinct. simarubæ,
Tinct. gentian.,
Tinct. aurant. cortic. amar. . āā ℥ijss.
Tinct. ignatiæ . . . ℥ss.
Vini xerici . . q. s. ad Oij.

Mix and filter.

Dose, from one to two fluidounces.

RETENTION OF FŒTAL MEMBRANES.—In the *Vratch*, No. 35, 1886, p. 625, DR. ANDREI R. FISCHER, of St. Petersburg, states that he has met retention of more or less considerable portions of the chorion in forty-two out of 683 (or in 6.2 per cent.) cases of labor. Discussing the etiology of retention, he mentions that (*a*) the phenomena occur oftener when the third period of labor is managed after Ahfeld's method than when Credé's method is employed (7.4 per cent. against 5.7 per cent.); (*b*) in primiparæ the retention is observed twice as frequently as in pluriparæ (9.1 per cent. against 4.9 per cent.); (*c*) an important causal part belongs to chronic inflammatory processes developing in the fœtal membranes, such as endometritis decidualis and choriitis chronica [the author's opinion is well supported by 1, the fact that in twenty-nine out of forty-two cases of the retention, waters either passed too soon (ten cases), or were so slow to pass that it proved necessary to make a puncture (nineteen cases); meanwhile the latter means was required in only 23 per cent. of the remaining cases where no retention occurred; 2, by the fact that the retention occurs more often in premature labors (8.2 per cent.) than in labors at full term (5.7 per cent.)] Passing to treatment, Dr. Fisher observes that in all his forty-two cases of the retention he did not use any other prophylactic means except the administration of ten-grain doses of ergot. As a rule, the retained membranes came out spontaneously within four or six days after labor. In four cases (10 per cent.) hemorrhage occurred, which, however, depended not upon the retention, but upon preëxisting atony of the womb, or decidual endometritis. In twenty of forty-two cases (47.6 per cent.) no fever was present, in twelve (28.6 per cent.) an isolated rise of the temperature was observed; and in only ten (24.8 per cent.) cases repeated febrile rises occurred. The respective figures for the normal (non-retention) cases which came under the author's observation during the same period were 58, 17.6, and 24.4 per cent. In thirty-two of forty-two retention cases, slight endometritis was observed; it disappeared under the use of ergot, quinine, and vaginal injections. Basing his views on the facts as sketched above, Dr. Fischer comes to the general proposition that retention of the fœtal membranes is relatively harmless, and cannot give any indication for any therapeutic interference.—*London Medical Record*, Dec. 15, 1886.

BERI-BERI.—CORNELISSEN, a Dutch surgeon, and SUGENAYA, a Japanese army physician, have reported as a Committee appointed to investigate this disease.

They find it an infectious disease and contagious through the medium of bacilli. These bacilli resemble those of milzbrand, are somewhat smaller, colored by fuchsin or gentian-violet, and are visible when magnified 560 times. They are found in blood, lungs, heart, muscle, brain, spinal cord, and nerves of those who have died; they are capable of culture by Koch's methods.

The bacilli flourish both within and without the body, they may infect a room, and wooden houses are thought to be especially dangerous as affording a lodgement for them.

Immediate contagion from person to person has not been as yet observed; it is thought they gain access through the respiratory organs; improper diet is a predisposing cause of infection, while the possibility that drinking water may convey the germs of the disease is not yet determined.

Particular localities may be extensively infected; in Atjek barracks, buildings of all kinds, and vessels were dangerous.—*Deutsche medicinische Wochenschrift*, December 9, 1886.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 1, 1887.

RESECTION OF THE ANKLE-JOINT.

OPERATIONS upon the various joints have been much improved since the establishment of aseptic methods in surgery, and none has been more benefited than that of resection of the ankle-joint. The difficulties in the way of obtaining good results in this operation are now chiefly mechanical, and depend largely upon the difficulty of obtaining a free exposure of the parts composing the joint.

A great variety of methods of opening the ankle-joint have been proposed, one of the best of them being that of Vogt. This consists in making a longitudinal incision on the outer side of the extensor tendons, retracting these tendons strongly inward, dividing the extensor brevis digitorum, splitting the joint capsule, clearing the head and neck of the astragalus, and dividing the astragalo-scaphoid ligament. After this is done, a transverse incision is carried backward from a point just below the middle of the first incision and below the external malleolus, sparing the peroneal tendons, but dividing everything else down to the astragalus. The foot is then twisted outward, the anterior ligaments are cut away from the malleolus, and the interosseous ligament is divided. The head of the astragalus is then drawn outward, and the deep portion of the internal lateral ligament is divided between the malleolus and the astragalus, and, finally, the latter is drawn into the incision, and its posterior attachments severed.

It will be observed that everything is done to spare the tendons in this operation. On the other hand, Reverdin, of Geneva, has proposed a method in which a free exposure of the joint is obtained at the expense of a number of tendons. In this method an incision is begun at the inner margin of the tendo Achillis, carried horizontally across it, behind the ankle, to the edge of the extensor tendons at the upper border of the calcaneum. By a second incision the tendo Achillis and the peroneal tendons are divided, and afterward the ligaments of the joint. Reverdin did this operation successfully upon a woman who had ankylosis of the ankle-joint and resulting pes equinus, following fungous arthritis. His success in this case may have been partly due to the fact that division of the tendo Achillis might be expected to favor a cure of the talipes equinus. At the same time, such a division might, when the foot was not already too much extended—understanding this word in the popular sense—result in the production of a pes calcaneus, which would be manifestly disadvantageous. At the same time the division of the peroneal tendons might lead to inward displacement of the foot.

A better method than either of these has been employed by KOCHER since October, 1883, and is fully described, with five illustrative cases—four operated by Kocher, and one by himself—by DUMONT, in the *Archiv für klinische Chirurgie*, Bd. xxxiv. Heft 2, 1886. In this operation the foot is held at right angles to the leg, and an incision is made from the outer edge of the tendo Achillis, curving round and over the point of the external malleolus to the edge of the extensor tendons. The peroneal tendons are now exposed, and each one caught at two points by a ligature and divided between them. The astragalo-crural joint is now opened, the attachments of the ligaments of the astragalus and calcaneum, and the capsular ligament on the anterior and posterior edges of the tibia divided, and the foot is dislocated inward—care being taken not to break off the internal malleolus by using too much force. In this way the whole of the joint is exposed. The diseased tissue is now removed, after which the foot is replaced at right angles to the leg, and the divided tendons are united by sutures. This very important step of Kocher's method is carried out by means of an ingenious and peculiar form of suture. The ends of a suitable thread are passed by means of two needles into two points at the same level on the natural surface of one end of the divided tendon, and brought out at corresponding points on its cut surface, leaving a loop over a portion of the tendon above. The needles are then introduced into the cut surface of the other end of the divided tendon, and brought out at corresponding points upon its natural surface, drawn firm, and tied. This form of suture is less liable to give way than any other which we have seen proposed. The subsequent treatment of Kocher's operation is what is usual in a resection of the ankle-joint.

In all of the five cases of Kocher's operation the result was admirable, as estimated after a lapse of from more than a year to more than two years. In his first case Kocher found it convenient to divide partially the tendo Achillis, in order to secure a freer exposure of the joint, but this does not seem to have been necessary in any of his subsequent operations. In his third case a recurrence of fungous synovitis took place six months after the operation, and led to a second opening of the joint, which was this time made by an incision on the inner side of the ankle, parallel to the tendo Achillis. This recurrence does not affect the question of the feasibility and utility of Kocher's method, the adoption of which we do not hesitate to recommend.

We have already, in THE MEDICAL NEWS of July 24, 1886, discussed the subject of the operative union of divided tendons, and it is now a common thing for surgeons to secure such union without difficulty; so it is interesting to note that Kocher has availed himself of this possibility in such a manner as to simplify very materially the operation of resection of the ankle-joint, herein furnishing a new illustration of the fact that it is sometimes better to pass directly over an obstacle, than to devise laborious ways of passing around it.

TESTAMENTARY CAPACITY IN ILLNESS.

THE validity of a will or any instrument executed during a fatal illness is occasionally the subject of judicial inquiry on the ground of resulting mental incompetency. If the testator was in a state of active delirium from disease or any other cause, or if in an unconscious or comatose condition with loss of the power of articulation and muscular control to a degree that no sign could be made, a question of competency would hardly be seriously entertained if indeed it should arise.

Excluding from consideration all cases that might be placed in one of these classes, about which there would be a general assent as to their incompetency, there is an intermediate mental state of partial delirium, incomplete consciousness, enfeeblement of mental and muscular power occurring during prolonged illness, or from shock, in which the validity of, and even responsibility for, acts may be called in question. Physicians in general practice have had occasion to observe that the recollection of all occurrences during even a mild attack of continued fever vanished on recovery, notwithstanding the fact that during the illness the patient may have conversed responsively and rationally, and seemed free from delirium. While the patient responds to questions perhaps correctly yet in monosyllables, he does not originate or lead in conversation, and indeed is incapable of doing so. Surgeons recognize a state of mental paralysis and inability to carry on mental operations which may follow shock from sudden and severe injury or hemorrhage. Extreme pain and debility may also impair the will-power so that intelligent assent is questionable or in absolute abeyance. Even the exercise or control of muscular movements necessary to affix a signature may be lacking, and only possible, as has actually happened, with the aid of the guiding hand of an attorney or a friend who may be near. Doubts have been expressed, and testimony actually taken in court in certain cases, as to whether the signature appended to a death-bed will was that of the testator, or of the lawyer who prepared the document and probably guided the feeble hand.

If it is the confirmed experience of the physician and surgeon in those cases of mild delirium and suspension of mental operations accompanying fever, of enfeeblement of the mind and will-power from chronic and painful disease, or of hebetude and mental paralysis following surgical shock, that the memory of transactions occurring in one of these states fades on recovery, or that a condition of partial and even complete unconsciousness exists. While we might not be warranted in urging that all documents executed in one of these conditions should by law be declared invalid, the least that can be said is that great doubts must be entertained of the existence of testamentary capacity. It may not be possible to determine it exactly if death supervenes, but inferences may be drawn from cases that recover of which the history can be obtained. In three recorded instances in which wills were made during a fatal fever attended at some period with delirium, the validity of the instrument was sustained although contested. Whether on recovery the acts would have been recalled and annulled could only be a matter of conjecture. In two cases in which recovery subsequently occurred, one repudiated the document as contrary to fixed intentions, and both failed to recall the acts performed, although regarded by witnesses to be in a proper and disposing state of mind at the time of execution.

It may be a principle of law that a will which does not exhibit *prima facie* evidence of mental derangement, and which is executed in the form prescribed by law, ought to be admitted to probate. Grave doubts, however, should exist and be expressed, as to the mental capacity of all those cases in which there is a reasonable inference that the will-power and other mental faculties are so enfeebled by disease or shock as to be incapable of originating or framing a purpose; in those cases in which a suggestion to execute a paper, at a time when death is imminent, originates with friends who surround the death-bed, instead of in the mind of the sick person; or in which there is no evidence to show that the testator dictated the provisions of a will drawn in an emergency,

but which seem to have originated in the minds of those surrounding the dying man, who yielded perhaps a passive, parrot-like assent. Undoubtedly there are certain exceptional cases in which the preparation of a will, the details of which are clearly fixed in the mind, may have been deferred, and it may be possible to show that the mind, though impaired by disease, was still moving in the line of previously declared intentions.

Medical observation of the mental condition of the class to which reference has been made, as well as cases that have been reported, should be sufficient to induce extreme caution and reserve in forming opinions where a reasonable doubt of the capacity exists, whether the question is one affecting the validity of a will, a contract, or a release in settlement of a claim for damages, executed during the shock following railroad or other injuries. In such cases the weight of professional judgment and the presumption must be against the existence of testamentary capacity and the ability to make a valid contract.

POISONING AFTER INJECTIONS OF CORROSIVE SUBLIMATE.

FLEISCHMANN, the first assistant in the obstetrical clinic at Prague, adds another to the already long list of deaths following the use of corrosive sublimate injections during and after labor. Two injections were given, one before and one after the examination of a young primipara; shortly after the second there was a discharge of bloody mucus from the vagina, followed by severe abdominal pain, a serous diarrhœa, and vomiting of a quantity of bile; on the following day labor was completed without difficulty, and as the symptoms of the day before were attributed to the absorption of a small quantity of the mercurial salt, carbolic acid injections were used during and after labor. The mischief, however, had already been done, for, after exhibiting symptoms that pointed indubitably to mercurial poisoning, the woman died on the sixth day. The post-mortem examination showed spongy and swollen gums, ulcers on the tongue and pharynx, superficial ulcers in the ascending colon, and a high grade of acute inflammation of the kidneys.

Dr. Fleischmann ends his communication in the *Centralblatt für Gynäkologie* with an impressive appeal to the profession to banish corrosive sublimate from obstetrical practice. Instead of denouncing in this sweeping manner a drug that has proved itself of inestimable value as a germicide in obstetrics, it would have been better to consider the subject a little more carefully. If the hand is thoroughly disinfected before making a vaginal examination, and the infection of the vagina by germs carried in upon the finger is thus made impossible, the disinfection of the vagina after every examination is entirely unnecessary. Injections, therefore, of disinfecting solutions before labor being useless and sometimes dangerous, should not, as a rule, be employed. After labor, however, as the vagina may contain blood-clots, shreds of membrane, or meconium, and as its disinfection is desirable, it is justifiable to give one injection of a substance that can be depended upon to destroy all infecting germs that may have been deposited in these foreign matters, and in a situation most favorable to their growth and propagation; for this purpose nothing is better than corrosive sublimate, in a solution that need not be stronger than 1 : 4000.

The method of giving vaginal injections in Prague is presumably by means of a douche from a fountain syringe, as is the custom throughout Germany, and a very good method it is; but we are not told whether the vaginal tube, although perforated on all sides, is closed at the end, a seemingly trivial precaution, yet one that would, in all probability, have prevented the death in question, for the absorption of the poison was evidently due to the fact that the solution, entering forcibly the cervical canal, had separated to some extent the membranes from the uterine walls, thus allowing a poisonous dose of the drug to remain behind in the uterine cavity.

Used carefully, therefore, it is not likely that corrosive sublimate will meet with the execration of obstetricians, but that to it will be due the immunity of those who use it intelligently from that scourge of many practitioners, puerperal septicæmia.

HARVEY'S MANUSCRIPT NOTES.

THE publication of these "Notes" under the supervision of a committee of the Royal College of Physicians of London, will be welcomed by every student of physiology, as they represent the original MSS. of the lectures delivered by Harvey in 1616, in which he set forth, for the first time, his discovery of the circulation. They antedate, by twelve years, the publication of his celebrated work *Exercitatio anatomica de motu cordis et sanguinis in animalibus*, published at Frankfort. He evidently pondered long upon his great discovery before the final announcement, and the notes are of great interest as showing how early in his work the demonstration had been made, and yet how careful he was to establish thoroughly and confirm his observations before sending them to the press.

As stated in the preface, these rough notes have a lesser value in illustrating Harvey's ways of thought and habits of observation. The text is interspersed with quotations and annotations, from which may be traced his anatomical reading and his acquirements in general literature.

In the early part of the notes, he lays down rules for the teaching of anatomy in lectures—*canones anatomiæ generalis*—from which we gather that he had a very clear conception of the duties of a teacher. He lays stress upon the following points: The importance of showing the relation of the structures by demonstrating, as far as possible, the whole of a part of a body at once; the necessity of illustrating the structure of man by that of animals, and bringing in points beyond mere anatomy, in relation to the causes of disease; to state things briefly and plainly; not to speak of anything which may be just as well learnt at home without the body, and not to spend too much time in minute details.

The manuscript is reproduced by the autotype process, with a transcript on the opposite page, and we must acknowledge the remarkable skill with which Mr. Scott, of the British Museum, has deciphered a handwriting which appears on many pages to be absolutely illegible. The work is published by Messrs. Churchill, and we are glad to learn that the number of subscribers to this splendid volume in this country is already considerable.

CHROMATE OF LEAD IN CAKES.

BY an interesting coincidence we present in this issue of THE MEDICAL NEWS the detailed account of a very obscure case of lead poisoning, while related in a separate article, by an independent observer, there appears its probable explanation. Some years ago DR. HASSAL stated in the *Lancet*, that in England chromate of lead was used as an adulterant of Bath buns, and of egg and custard powders, a fact which suggests the possibility that in the poisoned cakes found by DR. MARSHALL one of the commercial "egg-yolk" preparations may have been innocently used by some of the bakers. Wherever the blame may lie, however, authenticated cases of this sort are sufficiently rare in this country to excite the indignation of the community and demand action from the local health boards.

THE final arrangements for the celebration next week of the Centennial Anniversary of the Institution of the College of Physicians of Philadelphia have been announced. On Monday, January 3d, a Commemorative Address will be delivered by the President of the College, Dr. S. Weir Mitchell, and will be followed by a Reception at the College. On Tuesday, January 4th, a commemorative meeting will be held at noon. Dr. Alfred Stillé will deliver an address entitled "Reminiscences of the College." The newly elected Associate Fellows will be introduced, and Dr. Da Costa will make a brief address of welcome. After the meeting luncheon will be served in the old Museum room. In the evening the Fellows of the College will dine together.

One of the features of the celebration will be a loan collection of portraits illustrating the early medical history of Philadelphia. This interesting and very valuable collection will be kept together until Thursday, January 6th, and may be viewed by visitors on presentation of the card of a Fellow.

AT the election held this week for officers of the Philadelphia Hospital, Dr. John B. Deaver was elected surgeon; Dr. Roberts Bartholow, neurologist; and Dr. W. H. Wallace, physician-in-chief of the Insane Department.

SOCIETY PROCEEDINGS.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, December 20, 1886.

THE PRESIDENT, CHARLES A. LEALE, M.D., IN THE CHAIR.

DR. FRANK GRAUER read a paper on

THE PATHOLOGICAL ANATOMY OF SCARLATINAL NEPHRITIS.

Although a great deal has been done within the past ten years in elucidation of this subject, he said there still exist differences of opinion as to the minute changes that occur in the various forms of the trouble. The different forms of scarlatinal nephritis that are met with post-mortem may be classified, according to Friedländer, under the following three types: 1. The initial catarrhal nephritis. 2. The large, flabby, hemorrhagic kidney. 3. Acute glomero-nephritis, or nephritis post-scarlatinosa.

The first variety is met with during the first week of the disease, lasting a few days or a week, and then gradually disappearing. It rarely ends fatally, and is only recognized by a chemical and microscopical examination of the urine, showing a slight amount of albumen, mucous and hyaline casts, and, more rarely, red and white blood corpuscles, renal epithelium, and granular casts. In a majority of instances the kidney trouble is liable to be overlooked.

Post-mortem, the kidneys are found to be slightly enlarged and hyperæmic; the capsule strips off very readily; on a cut surface there is seen thickening of the cortical substance, with more or less loss of striæ, and the glomeruli appear as red clots. Microscopical examination shows swelling and granular degeneration, with desquamation of the epithelium, especially that lining the convoluted tubules. Hyaline and granular casts are often found in the straight tubes, and, where the process has been more severe, the beginning of a round-cell infiltration in the interstitial tissue. It is only in those cases in which children die from sequelæ or complications, such as diphtheria or bronchopneumonia, that we are able to notice the changes mentioned.

These changes would naturally be supposed to be those of a parenchymatous inflammation; but Friedländer, who had probably examined the largest number of cases microscopically, pointed out the following dif-

ferences: Parenchymatous inflammation, according to Virchow, leads to fatty degeneration of a cell, with disturbance of its function. This process does not occur in the epithelial cells lining the uriniferous tubules in this form of nephritis. Then, on the other hand, we have a cellular proliferation in initial catarrhal nephritis that, as a rule, does not occur in parenchymatous inflammation of the kidney.

The second form of nephritis, characterized by the large, flabby, hemorrhagic kidney, is not as frequently met with as the preceding or following form, and Friedländer found it present in only twelve cases out of the two hundred and twenty-nine that he examined. It probably occurred from the first to the fourth week of scarlatina, and ran a rapid course; the urine in some cases remaining normal up to within twenty-four or forty-eight hours of death, and œdema rarely occurring. It was generally found in those cases accompanied by extensive angina and diphtheritic inflammation. The kidneys were enlarged and softened. The cortical substance was thickened and grayish-red in color, and there was complete loss of the striæ, while the glomeruli, as a rule, were invisible. The cortex was studded with ecchymoses and large hemorrhagic infiltrations.

Microscopically, the tubules were found to contain the various forms of casts, red blood-corpuscles, degenerated and desquamated epithelium, and an increase in the connective tissue characterized by a round-cell infiltration situated mainly around the glomeruli and between the convoluted tubules. Small abscesses were often found in the cortical substance, in which, by means of one of the aniline dyes, micrococci could not infrequently be detected. Whether these micrococci had any distinct relation with the etiology of scarlatina or diphtheria, Dr. Grauer was unable to say. This form of nephritis is not characteristic of scarlatina, as it has been found in some forms of primary diphtheria; and Friedländer regarded it as a septic inflammation of the kidney.

Acute glomerulo-nephritis is almost characteristic of scarlatina. It rarely occurs in other diseases, though Dr. Grauer had met it once in a case of heart trouble. Klebs found it present only in scarlatina. It generally occurs in the third or fourth week of the disease, when the patient is convalescing. Probably without other symptoms, œdema is noticed about the eyes and lower extremities, and examination of the urine shows a high specific gravity and evidences of albuminuria. Microscopical examination shows hyaline casts, small epithelium, red blood-corpuscles, and, occasionally, epithelial and blood casts. In some cases the trouble is of short duration, but in others the œdema increases, fluid accumulates in the peritoneal, pleural, and pericardial cavities, while the urine keeps on diminishing in quantity and becomes more or less bloody. As the process goes on, we have uræmic symptoms with anuria and death. Friedländer found this form of nephritis present in forty-two cases out of two hundred and twenty-nine examined by him.

Klebs was the first to point out that the glomeruli were affected, and the results of his examinations are given as follows: In making fresh sections of the kidney with a double knife, he found that the glomeruli were anæmic, and on washing out the same in water they became dark and cloudy. By allowing the light to fall directly on the specimen they appeared as white points. Microscopically, he noticed small irregular nuclei embedded in a granular mass, within the capsule proliferation of the capsular epithelium, and the capillaries almost completely severed by a mass of nuclei. On tearing apart the glomeruli with needles, he found the glomerulo-epithelial cells more adherent than normal and varying in shape. Occasionally, some of the cells were found fatty. Situated between the glomerulo-epithelial cells and the walls of the capillaries were small irregular nuclei, and from their shape and appearance he came to the conclusion that they were nuclei of proliferated connective tissue cells, and that they produced a compression of the capillaries, which caused the diminution and suppression of the urine.

In this Dr. Grauer thought he was probably mistaken, as there was no evidence of connective tissue situated between the glomerulo-epithelium and the walls of the capsule in a normal kidney. Having discussed the microscopical anatomy of the glomeruli, he stated that Klein, in an examination of twenty-five cases where death resulted from scarlatina, observed the following changes: First, increase of nuclei, probably epithelial, covering the glomeruli; second, hyaline degeneration of the elastic intima of the minute arteries, especially the afferent arterioles. The intima of these vessels appeared in places swollen up into cylindrical or spindle-shaped hyaline masses, which produced a distinct narrowing of the lumen of the vessels. In connection with this, he observed a similar hyaline degeneration of the capillaries of the Malpighian corpuscles, in the course of which greater or smaller parts of the glomeruli became obliterated. The degenerated parts were at first hyaline; later on, they assumed a more fibrous aspect, Bowman's capsule at the same time becoming greatly thickened. A third change that he observed was multiplication of the nuclei of the muscular coats of minute arteries, and a corresponding increase in thickness in the walls of these vessels. The changes in the glandular part of the kidney were indications of a parenchymatous nephritis. He did not think that the anuria and uræmic poisoning were due to compression of the vessels of the glomeruli, but attributed them to the changed state of the arterioles.

Ribbert, from his examinations, came to the conclusion that glomerulo-nephritis consists in a swelling and desquamation of the glomeruli and capsular epithelium, with more or less accumulation of the same in the capsular space. The nucleated mass in the lumen of the capillaries he regarded as thrombosed white blood-corpuscles.

Having referred to the results obtained by Langham in the examination of twelve cases, Dr. Grauer went on to say that his own observations were based upon nine cases of glomerulo-nephritis which occurred at the Algemeines Stadisches Krankenhaus in Berlin, and were conducted at the pathological laboratory of Dr. Carl Friedländer. The results of the post-mortem examinations in the nine cases were then given in detail, after which he described the general microscopical appearance of the kidneys in glomerulo-nephritis as follows: They are enlarged and hyperæmic; there is no loss of cortical striæ, and in some cases the cortex may be somewhat thickened. The glomeruli are pale and prominent, and more or less enlarged.

As regards the microscopical appearances, he said, the uriniferous tubules are apparently normal. There may be some evidence of a slight parenchymatous inflammation; the epithelium may be somewhat swollen, and occasionally a cast may be seen in the tubules. The following changes were found in the glomeruli. They are bloodless, and a red blood-corpuscle is very rarely seen in the lumen of a capillary, especially when stained with hæmatoxylin and eosin. If present, they would be stained a rose color by the eosin. When examined with a low power the glomeruli are found larger than normal and covered with a mass of nuclei. With an immersion lens the following changes are noticed in the capillaries. In some the only change that is noticed is a thickening of the endothelial layer, which becomes more granular. In others the lumen of the vessel is filled with a rich nuclear protoplasm. The question that arises is, Are these nuclei the nuclei of the proliferated cells or do they belong to white blood-corpuscles, as described by Ribbert? Dr. Grauer's opinion is, that they are the nuclei of the proliferated endothelial cells, being smaller and darker than the nuclei of white blood-corpuscles. Again, he has seen an endothelial cell swollen and projecting into the lumen of the capillary like a cortical epithelial cell, and completely obliterating its calibre. In certain loops, he said, the lumen was filled with a reticulum, as described by Langham, in the meshes of which there might be red and white blood-corpuscles. The hyaline degeneration of the capillaries, as described by Klein, he observed in only two glomeruli.

With reference to the glomerulo-epithelium, he had noticed swelling and proliferation. The loops, however, as a rule, were larger than normal; showing that the pressure was from within, and not from without. Proliferation of the capsular epithelium, as described by Klebs, was not observed in eighty-two sections that he examined; although he observed it in other forms of scarlatinal nephritis. Hypertrophy of the left ventricle of the heart was always present in cases of glomerulo-nephritis, as first pointed out by Friedländer. It was due to the heart being compelled to do more work on account of the obstruction in the Malpighian tufts. In concluding, Dr. Grauer expressed the opinion that the term glomerulo-nephritis ought to be limited to those affections in which there is an obliteration of the loops of the capillaries, and not applied to those affections in which there is only a proliferation and desquamation of the glomerular and capsular epithelium, as this change has been noticed in all forms of chronic nephritis. A number of specimens illustrating the points brought out in the paper were exhibited under the microscope.

DR. A. FLINT spoke of the changes which had from time to time taken place in the views of physiologists in regard to the *rôle* played by the various parts of the minute anatomy of the kidneys in the excretion of urine, and stated that he had now returned to the opinion formed by Bowman from his researches in the structure of the Malpighian bodies and the vascular apparatus of the organ. Our knowledge of glomerulo-nephritis was of comparatively recent origin, and was chiefly due to the improved microscopes and the improved methods of staining.

One of the questions of interest suggested by the paper was in regard to death from so-called uræmic poisoning. This is a live question to-day, and personally he had very positive opinions in regard to it, which were considerably at variance with those formerly held by him. From the investigations which he had made during the last four years in regard to excrementitious substances, he had begun to doubt whether, after all, urea is a poison. His experiments had led him to believe that water was formed *de novo* in the system from the union of oxygen and hydrogen; so that under these circumstances it was an excrementitious product, and yet it was certainly not a poison. So there was good reason to suppose that carbonic acid was not a poison in itself. Some experiments made as long ago as 1840 showed that animals might be exposed to its effects indefinitely without any injury if the quantity of oxygen supplied to them was proportionately increased. It was the carbonic oxide, a deadly poison, which did the harm in cases where the fatal effect was usually attributed to carbonic acid.

As to the cause of death in those cases following scarlatinal nephritis in which it was commonly attributed to uræmic poisoning, he believed that those parenchymatous degenerations are due very largely to the excessive pyrexia of the scarlatina. The special direction which these parenchymatous degenerations take in different infectious fevers is governed, he thought, by the special cause of the disease; each affection having its own peculiar *contagium vivum*, with its specific mode of action in the system. In scarlatina there is a strong tendency for trouble to locate in the kidneys, and in scarlatinal nephritis the urine is diminished in quantity and concentrated, and contains a large quantity of albumen, because these organs become choked with excrementitious matter and can no longer be washed out by the water derived from the Malpighian tufts.

DR. ISAAC E. TAYLOR said that in the cases to which Dr. Grauer had directed special attention, death had occurred in from four to eight weeks. He should like to inquire what would be the result of an examination of the kidneys in those cases which sometimes occurred in which children were struck down in thirty-six hours. He related one case in which a child was suddenly seized with spasms, after which it became comatose, and died in a few hours. In another case, occurring in a family where scarlatina already existed, no eruption could be found except a slight blush upon one of the child's feet. In a few days, however, purpura hemorrhagica of an alarming character ensued; but recovery finally took place. He also related the case of two children in the same family. The eruption consisted in a slight blush upon the hands and feet, but in a few days anasarca set in, and death resulted.

DR. L. J. MACNAMARA said that if there was swelling of the endothelial cell, filling up the calibre of the tubules, as described by Dr. Grauer, it would overthrow the theory formerly entertained that these tufts of capillaries are composed of nothing but epithelial cells, without nuclei. Or the condition noted might, perhaps, be explained by the existence of two sets of cells, one variety being nucleated and the other not nucleated. Again, it had occurred to him that if it were true that scarlatina has a special action upon the epithelial cells of Bowman's capsule, why did it not also have the same actions upon such serous structures in other parts, as, for instance, the

endocardium? It seemed to him that its action was on the endothelial cells.

DR. DANIEL BROWN expressed the opinion that the virus of scarlatina finds a soil particularly fitted to it in the skin, the intestines, and the lining membrane of the glands, and that by its effect upon these structures an irritation of the nervous system is set up that is sufficient to account for the class of cases to which Dr. Taylor had referred. It is very much as though the child died from shock. Scarlet fever has the effect of arresting almost all the secretions of the body; and, therefore, in his treatment he is in the habit of employing such remedies as tend to stimulate the secretions. By pursuing this course he has found that the temperature is kept down, and that the danger of unpleasant sequelæ is greatly diminished.

THE PRESIDENT said that some fifteen years ago, when attending physician for diseases of children at one of the largest dispensaries of the city, he was struck by the large number of cases of dropsy that presented themselves, and he found that the great majority of them were in children who had passed through attacks of scarlet fever without any medical attendance. Another important point was that in examining the urine, from day to day, in cases of scarlet fever, although for a time there might be no sign of kidney trouble, it was a fact that albumen appeared in it almost invariably on the twenty-first day. It thus followed close upon desquamation of the skin. When scarlatinal dropsy is moderate in amount, there is usually little difficulty in promptly relieving the patient.

DR. GRAUER said that in the cases referred to by Dr. Taylor, in which death occurred within twenty-four or forty-eight hours, there was complete suppression of urine, and that the condition found after death was acute glomerulo-nephritis.

PERFORATION OF THE APPENDIX VERMIFORMIS; LAPAROTOMY.

DR. JOSEPH D. BRYANT presented a vermiform appendix which he removed last summer. The case was one which he saw in a neighboring town in consultation with Drs. E. G. Janeway and W. T. Bull. The patient was a male, about forty-five years of age, with a good family history, and without any predisposition that could be justly claimed as the cause of his illness. About fifty hours before he was seen by Dr. Bryant, and without any appreciable exciting origin, he had been suddenly attacked with a moderately severe griping pain in the epigastric region. He had had a mild diarrhœa for ten or twelve hours previously, and, attributing it to this cause, he attached but little importance to it. Domestic remedies were administered, including a mild cathartic, which afforded him great relief.

About fifteen hours afterward the pain became more severe than at the outset, and was still confined to the epigastrium, there being no pain or tenderness whatever in the right iliac region. The family physician was now called in. He ordered a cathartic followed by an anodyne, but the former produced no characteristic effect. The pain increased in intensity, the abdomen became tympanitic, and nausea, with occasional vomiting, ensued. The vomited matter was not characteristic of any special morbid process. Enemata were administered which served to dislodge a few small scybalous masses only.

The condition of the patient became gradually worse, and Dr. Janeway was called in consultation about forty-five hours after the pain first commenced. About five hours later Drs. Bryant and Bull arrived, and at this time the following facts were noted: The patient's perceptions were intact, although blunted somewhat by the previous use of opium. Persistent, though not severe, nausea existed, with occasional vomiting, although the matter vomited still showed no distinctive characteristics. The abdominal walls were extremely distended, with tympanitic resonance well marked in all situations. Hepatic dulness was normal. Tenderness on percussion was general, but was best marked in the lower portions of the abdomen. No irritated point of special tenderness was discovered. All pain, however, was referred to the epigastric region, as at the outset of the attack. The abdominal walls were too tense to render deep palpation of any service as a diagnostic measure. Temperature 102°, pulse 108. The inspirations were increased in frequency, though painless; the increased frequency appearing to be largely due to the abdominal distention, The bowels were obstinately constipated, with an absence of all intestinal sounds and of appreciable vermicular movements. Digital rectal examination disclosed nothing abnormal. The thighs were flexed.

As the result of this examination, the consultants believed: (1) That a more or less general peritonitis existed; (2) that it was secondary to either obstruction of the intestinal tract or perforation of it; (3) that immediate measures of relief must be taken to insure a chance for recovery; (4) that medicinal measures afforded no such chance; (5) that an exploratory incision of the abdomen was warranted.

The patient having willingly consented to the operation, it was performed in as thoroughly an antiseptic manner as the circumstances of the case would admit. As soon as the peritoneum was incised a very small amount of thin, non-offensive, reddish-colored fluid escaped. The small intestine was extremely distended, and its serous surface was deeply congested. The sigmoid flexure (which extended across to the right iliac fossa) presented similar appearances. In some situations evidences of recent lymph were seen. No characteristic local indications of an obstruction could be found anywhere.

The intestines at and about the right iliac fossa presented the evidences of a more intensely inflamed condition, and for this reason the caput coli was closely examined. It, too, presented appearances similar to the contiguous intestines. The vermiform appendix was then brought forward, and with very considerable difficulty. It arose from the inner and peritoneal surface of the cæcum, was about two and a half inches in length, was covered entirely by peritoneum, and was unattached except at its origin from the cæcum. It was standing nearly erect between the intestinal folds. It was swollen and darkly congested, and presented somewhat the outline of a distended leech. At its base three perforations were found, two of which were each about the size of a small pea, while the other was of a smaller size. In one of the openings a small mass of soft fecal matter was located. At and around

the base of the appendix a considerable amount of the reddish fluid mentioned was seen, mixed with flakes of recent lymph.

The appendix was tied at its base below the points of perforation with a strong silk ligature, and removed with scissors. The toilet of the peritoneum was carefully performed with antiseptic sponges and a warm bichloride solution (1 : 10,000). A drainage tube was introduced, and the abdominal wound was closed and dressed antiseptically. During the operation the patient was stimulated frequently with hypodermatic injections of whiskey. At its termination the pulse was 120 and feeble. The patient could be roused to consciousness only with difficulty, owing, it was thought, to the opium which had been administered previously. He rallied, however, from the immediate effects of the operation, but died twelve hours after it from exhaustion.

Among the interesting features to which Dr. Bryant, in conclusion, called attention in connection with the case were the following: (1) The preceding diarrhœa; (2) the absence of distinctive pain at the seat of the lesion; (3) the location of this pain in the epigastrium; (4) the comparative quiet following the first attack; (5) the existence of normal hepatic dulness; (6) the extension of the sigmoid flexure to the right iliac fossa; (7) the unusual arrangement of the vermiform appendix; (8) the absence of the evidences of any restricting inflammatory process; (9) the uncertainty attending the diagnosis of the exciting cause of the patient's condition; (10) the unusual means adopted for the relief of the patient.

RHODE ISLAND MEDICAL SOCIETY.

Semi-annual Meeting held at Providence, December 16, 1886.

THE PRESIDENT, HORACE G. MILLER, M.D., IN THE CHAIR.

The preamble and resolutions for

THE PROTECTION OF THE MEDICAL PROFESSION,

introduced by Dr. F. C. Clark at the last quarterly meeting, were taken from the table, and, upon motion of Dr. C. H. Fisher, were adopted. They are as follows:

Whereas, The introduction by apothecaries of certain remedies has had an injurious effect upon the profession of medicine and tends to the usurpation of its functions.

Resolved, That the members of the profession use every means at hand to discountenance and discourage the employment in their prescriptions of any and every remedy put up and sold by any druggist, apothecary, chemist, or pharmacist, which compound comprises two or more medicinal substances, and has upon its label, or wrapper, or both, the ailment or ailments for which it is to be employed, with or without the dose, and appended thereto some name or title to attract attention to it, whether of physicians or others, and thus contributes to the injury and dishonor of the medical practitioner; and, furthermore,

Resolved, That all such remedies, with or without the name and character of their ingredients, be interpreted in the same manner and spirit as are those nostrums coming under Article I., Section, IV., page 37, of the Code of Medical Ethics,

DR. W. R. WHITE read a paper on a case of

INTESTINAL OBSTRUCTION IN AN INFANT CAUSED BY THE INGESTION OF WOOL.

(See page 7.)

DR. W. E. ANTHONY said he once saw a young child who was suffering from impaction of the rectum. On examination the finger encountered a hard foreign substance, which proved to be a squash seed. By using an ordinary button-hook, no instruments being at hand, *twenty-seven* such seeds were removed.

DR. R. F. NOYES mentioned the case of an infant, one year old, who had intestinal obstruction caused by swallowing an ordinary window-tassel, which was finally voided per rectum.

DR. F. C. CLARK approved of the use of calomel as a cathartic for young children. Of late he had to some extent employed the parvules of calomel—containing only one-twentieth of a grain each—giving five to seven of them at a dose. He had been surprised at the effects produced by what seemed to be so small a dose.

The Chair announced the following appointment of

DELEGATES TO OTHER STATE SOCIETIES:

Massachusetts, Drs. James H. Eldridge and H. R. Storer; Maine, Drs. F. B. Fuller, and C. V. Chapin; New Hampshire, Drs. Eugene Kingman and G. T. Swartz; New Jersey, Drs. T. H. Rankin and A. G. Browning; Connecticut, Drs. C. H. Fisher and F. T. Rogers; Vermont, Drs. C. H. Leonard and L. S. Hill; New York Medical Society, Drs. J. W. Mitchell and J. W. C. Ely; New York Medical Association, Drs. James H. Morgan and Charles O'Leary.

DR. E. T. CASEWELL exhibited a beautifully prepared specimen of a

DERMOID CYST OF THE OVARY

removed by him last June. The patient was single, fifty-one years old, and had known of the existence of the tumor for six months. An incision was made two and a half inches long, when the cyst readily presented. From the upper portion of the growth a considerable amount of pus was evacuated. The cyst was then found to contain a mass of dark brown hair and numerous small bones. Adhesions in front were difficult to break up, those posterior were easily broken. The patient made a tedious recovery, having to be nourished per rectum for some time on account of persistent vomiting. Later she had septicæmic symptoms and abscesses formed in the abdominal wall. In the end recovery was complete.

DR. CASWELL also reported a recent case of

OVARIOTOMY.

The woman was fifty-five years old. Fourteen years previous he had operated on her for the removal of a fibroid polypus of the uterus larger than a child's head. In the recent operation the incision was three inches long. The tumor with fluid contents weighed thirty-eight pounds. Full antiseptic measures were employed. Recovery was rapid and complete.

The Society then adjourned.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 3, 1886.

THE PRESIDENT, JAMES C. CAMERON, M.D., IN THE CHAIR.

DR. LAPTHORN SMITH presented a case of

PSORIASIS (?) FOLLOWING VACCINATION,

in a patient who was vaccinated during the epidemic of smallpox last year and the vaccine pock had not healed for six months; this eruption came out soon after the patient, who was previously a healthy young man, had been vaccinated.

DR. SHEPHERD did not think this was a case of psoriasis; it was a very good example of squamous eczema.

DR. T. WESLEY MILLS read a paper on the

CAUSATION OF THE HEART-BEAT AND OTHER PROBLEMS IN CARDIAC PHYSIOLOGY.

He remarked that in the light of our present knowledge some such statement of the case as follows may be provisionally accepted:

(1) The factors entering into the causation of the heart-beat of all vertebrates as yet examined are: (*a*) A tendency to spontaneous contraction of the muscle cells composing the heart. (*b*) Intracardiac pressure. (*c*) Condition of nutrition as determined directly by the blood, and indirectly by the nervous supply of the organ.

(2) The tendency to spontaneous contraction of muscle cells is most marked in the oldest parts of the heart ancestrally considered. He stated that he had shown (*Journal of Anatomy and Physiology*, vol. xxi.) that in the sea-turtle the last segments of the ventricle to pulsate are on its extreme right; while the right auricle outlasts the left, and the sinus and great veins beat much longer still. The same has been noticed in several other groups of animals. The most recently acquired parts of the heart are always the first to lose functional activity. These are but extensions of Harvey's observations, seen in the light of evolution.

(3) In all hearts examined intracardiac pressure is a factor of considerable importance; in some, as in that fish, menobranchus, etc., it is apparently the controlling factor. The same may be said of the molluscan heart.

(4) The power one contracting cell, when in action, seems to possess of initiating a similar state in others is of great significance.

(5) The influence of the nerves of the heart appears more and more as we ascend the animal scale. They seem only indirectly concerned in the causation of the beat by their influence over nutritive processes; but as the heart is being so frequently modified in its action, their influence in highly developed hearts becomes an almost constant factor, and of a degree of importance which our knowledge of the relation of nerve to muscle enables us, but inadequately, to appreciate, but which pathological changes ensuing on nerve section illustrate.

(6) It almost follows from the above that one part of the heart, having contracted, the other parts must follow. This is probably the explanation of the rapid onset of the ventricular after the auricular systole in the mammal. It will be remembered, too, that even in the mammal contraction begins in the great veins entering the heart. The basis of all these explanations is found in reality in the *natural contractility of protoplasm.* A heart in its most developed condition still retains (so to speak) the inherited, but modified, amœba-form in its every cell.

It seems likely to be shown that in the causation of the beat of the mammalian heart all the above mentioned factors enter.

In conclusion, he expressed his conviction that our present explanations of heart disease are of too mechanical a character; the nervous and the other factors indicated should more largely enter into the reckoning in the cardiac pathology of the immediate future.

DR. WYATT JOHNSTON presented a specimen of

EXTREME DILATATION OF HEART

on right side, obtained from a man, aged forty, who had died in the Montreal General Hospital. The right side of the heart contained twenty-seven ounces of blood and soft clot. Tricuspid orifice measured 9 lines in circumference, pulmonary orifice only slightly dilated, and valve competent; other valves normal; dilatation of the left ventricle very trifling; no hypertrophy of the heart-wall, and no marked degeneration of the muscle. Patient also had right-sided chronic tubercular pleurisy with dense fibrous exudation, and acute uniform miliary tuberculosis of both lungs in an extreme grade in connection with the arterioles. Dr. Johnston considered the case a puzzling one as to causation, as no caseating mass was discovered anywhere, and no connection of any such mass with the veins or thoracic duct. The adhesions could not embarrass the circulation in any way except by interfering with the contraction of the right auricle. He thought that the obstruction to the pulmonary circulation in the arterioles would have aggravated the dilatation of the right heart.

DR. GEORGE ROSS stated that the patient had been under his care in the General Hospital with symptoms of enormous pulsation of the epigastrium and right side of the thorax; the murmur was propagated to the hepatic region. The patient suffered greatly from cyanosis and breathlessness and died of inanition. He at one time thought that there was an aneurism of the abdominal aorta near where it pierces the diaphragm, but was much puzzled about the case and had not made a positive diagnosis.

PUERPERAL CERERRAL EMBOLISM.

DR. GEORGE ROSS showed a heart with warty vegetations on the mitral valves. The patient during life had been under his care, and had suffered from a right-sided hemiplegia with aphasia coming on even after confinement. The heart symptoms were those of mitral stenosis—presystolic thrill and murmur. At the post-mortem the left middle cerebral artery was found plugged with an embolus.

BIFID MECKEL'S DIVERTICULUM.

DR. WYATT JOHNSTON showed a Meckel's diverticulum almost three inches long which ended in a remarkable bifid extremity. He did not know whether it had any morphological significance but it was a condition he had never seen described and must be rare.

DR. JAMES BELL reported a case of

DILATATION OF THE STOMACH

caused by fibrous constriction of an inflammatory origin. The patient was a house painter and had frequently suffered from colic. The stomach symptoms followed a fall from a ladder in which several of his ribs were broken. Patient was under treatment for many months, had at one time vomited pus in large quantities, and had well-marked symptoms of dilated stomach. He had lost sight of patient till last week, when he heard he was under Dr. Lachapelle's care and suddenly developed symptoms of peritonitis of which he died in twenty hours. Dr. Lachapelle had kindly asked him to be present at the autopsy, when the following conditions were found. Fibrous constriction at the pylorus of an inflammatory origin, large abscess between the layers of the lesser omentum which had burst into the peritoneum and had caused fatal general peritonitis. The abscess communicated with the stomach through an ulcer at the pylorus. Dr. Bell attributed the whole trouble to the fall from a ladder eighteen months before and thought that if the patient had consented to operation his life would possibly have been saved.

TUBERCULOUS DISEASE OF BLADDER AND KIDNEY.

DR. BELL also showed specimens from a boy, aged nineteen, with the following history. Some months before, he had entered the Hôtel Dieu for frequent and painful micturition, and one of the surgeons had performed a lateral cystotomy and removed, so patient said, a fleshy tumor; the wound never healed, and when he came under Dr. Bell's care at the General Hospital, in October last, the wound was still unhealed and all the urine passed by it. The boy had a phthisical appearance and soon developed symptoms of tuberculosis of the lungs. Tuberculous disease of the kidney was suspected, but satisfactory specimens of urine could never be obtained; the boy died of exhaustion ten days ago and the autopsy, performed by Dr. Johnston, showed old tubercular disease of the right kidney and ureter, the bladder was healthy, but prostate was extensively involved. The granulations in the wound were tubercular, and section through the wound showed tubercle bacilli in large number. The left kidney was healthy. The lungs showed acute tuberculosis. The patient had also very extensive degeneration of the synovial membrane and cartilages of the right knee-joint. During life the knee was perfectly normal in appearance, but he frequently complained of deep-seated pain in it.

A CASE OF LYMPHATIC LEUKÆMIA.

DR. JAMES STEWART showed a man, aged thirty-two, who was suffering from enlargement of the cervical, axillary, and inguinal glands. The following is the history of the case: The patient, a farmer, first noticed a swelling under his left lower jaw nine months ago. The glands along the sterno-mastoid and above the clavicles are very much enlarged, the swelling is painless and in some parts has a semifluctuating character. Glands in axilla size of hen's egg; glands in groin also much enlarged. The patient complains of weakness with palpitation and breathlessness on exertion. He is decidedly anæmic. Never had any previous illness; has lost three sisters from pulmonary consumption. No evidence of enlargement of the bronchial and mediastinal glands. Dr. Stewart thought the breathlessness might be accounted for by the anæmia and pressure exerted by the enlarged cervical glands and the trachea. Thyroid gland and tonsils not enlarged. No pain, tenderness, or swelling over any of the bones.

Dr. W. G. Johnston had examined the blood and reported that red corpuscles are well-formed, uniform in size, and nummulate normally. White corpuscles are considerably increased in number. There are also numerous small, colorless cells. By Gower's hæmocytometer, red cells 35,000 per c. cm.; white cells, 200,000 per c. cm.; proportion of white to red, 1–20.

On examining the spleen it is found considerably enlarged; its vertical dulness extending from the upper border of the ninth rib downward a distance of five inches; its surface is smooth. The liver is also somewhat enlarged. During last two or three weeks patient has been complaining of a dull aching pain over the lower part of back; no pain or œdema of lower limbs. Nothing abnormal in abdomen.

The case presented some difficulty in diagnosis. Its marked clinical feature was the hyperplasia of the superficial lymphatic glands. So marked was this enlargement that at first sight we would be inclined at once to come to the conclusion that it was a case of Hodgkin's disease. The very considerable increase in the number of white blood cells, together with the increase in size of both spleen and liver, made it more probable that the case was one of lymphatic leukæmia.

Dr. Stewart then stated that there are cases, and the one exhibited belongs to this class, where it takes some time to say whether we have to do with a lymphatic leukæmia or Hodgkin's disease, and asked if it were possible that a case of Hodgkin's disease may end in what we call lymphatic leukæmia.

DR. BELL remarked that he had seen a number of cases of Hodgkin's disease whilst residing in the General Hospital and had followed some for a number of years without noticing much deterioration in the patient's health. He looked upon the case presented by Dr. Stewart as one of leukæmia because of the increased number of white blood-corpuscles. The prognosis of leukæmia is much more grave than that of Hodgkin's disease.

DR. T. W. WILLS said that the case was of interest because of the recent evidence that lymphatic glands are producers of red blood-corpuscles, and this case would support it from the pathological side.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, December 7, 1886.

THE PRESIDENT, C. L. DANA, M.D., IN THE CHAIR.

DR. W. R. BIRDSALL presented the patient and read the history of

A CASE OF PROGRESSIVE MUSCULAR ATROPHY WITH BULBAR SYMPTOMS;

the atrophy limited to the left upper extremity, the abductor indicis of the right hand, and the tongue. The latter affected bilaterally (predominantly on the left side). He presented the case as illustrating the nonconformity of disease to our arbitrary standards of

classification and description of types of disease. The patient showed peculiarities due to the pathological process having advanced to an extreme degree in certain regions while its distribution had remained limited, not involving neighboring parts usually affected; the left upper extremity and tongue being the parts involved, and to a marked degree, while the right upper extremity was normal, excepting the abductor indicis; the trunk and lower extremities remained healthy. A detailed history of the case was given. The patient, a Swede, was a carpenter, aged thirty-nine years, married, of temperate habits, without a history of syphilis or other disease. A chart was presented showing the electrical reactions.

DR. E. C. SEGUIN had seen very few examples of unilateral progressive muscular atrophy. He had at present one patient under observation in whom the muscular atrophy was limited to one side, presenting the electrical and other characters of progressive muscular atrophy.

DR. W. M. LESZYNSKY had a girl aged seventeen years under observation in whom the atrophy was unilateral, affecting only the supraspinatus, deltoid, and a portion of the trapezius.

DR. E. C. SPITZKA read a paper on

SELF-ABUSE IN ITS RELATION TO INSANITY.

After citing the views of the classical writers, he stated that the question of the existence of a special form of insanity due to self-abuse and to nothing else, is complicated by the existence of another well-demarcated affection known as the insanity of pubescence. The mental diseases due to self-abuse usually occurred at the same period of life as the latter disorder. This fact explains the similarity of many clinical features between them. The question is further complicated by the fact that hebephreniacs (sufferers from pubescent insanity) are often addicted to self-abuse, and that thus the features of one disorder may be engrafted upon the other.

The continental authorities do not recognize a special form of masturbational insanity in their tables. Schüle, it is true, speaks of *onanistic insanity* in the sense in which Maudsley uses that term; but he assigns no part to it in his classification, and disposes of it in a few lines. Krafft-Ebing recognizes the vice as an etiological factor, and speaks of such and such forms of insanity on a masturbational basis. He, as well as Schüle, with the majority of recent German writers, follows Ellinger in attributing to the *masturbatory neurosis* a relation to the development of insanity analogous to heredity and other admitted predisposing and determining factors. I have yet to find any dissent expressed by these authorities from the position taken by Emminghaus, who claims that owing to its causal relationship to widely differing forms of insanity it is not proper to speak, as Skae does, of a special form due to masturbation. This critical remark would seem to be supported not only by the clinical facts accessible to every observer, but also by the confusion existing among those writers who have attempted to define and demarcate such an affection. Skae speaks of a peculiar imbecility and shy habits as characterizing the disorder among the youthful, and suspicion and fear, and scared looks, palpitation and feeble bodies as found in older victims, who gradually pass into dementia. The most distinguished follower of Skae attributes the following symptoms to that form of insanity of which masturbation is the chief cause and "the chief symptom present," giving "the whole case distinct features:" Exaggerated self-feeling, conceited shallow introspection, frothy emotional religious notions, and a restless, unsettled state with foolish hatchings of philanthropic schemes. Luther Bell who, with Isaac Ray, was among the earliest to attribute special symptoms to insanity caused by masturbation, furnishes a very faithful picture of certain cases, whose particular feature he describes as being a tendency to dementia, a loss of self-respect, a sulky, michievous, and dangerous disposition, and a subjectively irritable and depressed state of mind. Griesinger, who does not recognize a special form and denies specific characters, admits that the majority of cases are marked by a profound dulness of sentiment and mental exhaustion, by religious delusions and hallucinations of hearing, and a rapid transition to dementia in the event of incurability, which latter is the usual issue.

The effect of masturbation on the mind and nervous system varies according to the age at which it was commenced. Like other agents which are injurious to the developing brain, such as epilepsy, alcohol, and syphilis, its effect is most rapid and serious in younger children, less so in adolescents, and least marked in adults —unless protracted. For very young infants it causes a profound deterioration, manifesting itself in convulsive, choreic disorder, and imbecility. In those who masturbate between the fifth and tenth years, the effects seem to be manifested chiefly in arrested brain nutrition. Spontaneity of thought and action is absent with such children; they do not play as their comrades do.

There are a number of other circumstances which modify the development of mental disturbance in masturbation. The age between twenty and twenty-five is preëminently the period of somatic introspection. It is at this period, if at any, that the average man begins to think about his bodily condition. In these years men weigh themselves, discover that they have too much or to little flesh, develop slight gastric or intestinal disorders, reflex nervous symptoms, or indulge to excess in tobacco, in baccho, and in venere, and consequently are on the *qui vive* for the occurrence of cardiac, renal, or veneral disease, or of sexual disability. It is at this period that the results of masturbation are most deeply felt by a large proportion of the victims of that habit. The prevalent tendency of his age and of his associates of the same age carries him into a veritable nosomania. Perhaps also he attempts under lay or medical advice to accomplish coitus, and fails. It is for this reason that we find the larger portion of cases of insanity due to masturbation developing between the twenty-fifth and thirty-fifth year, classified as "hypochondriacal paranoia."

A number of typical histories were then related, from which the author drew the following conclusions: 1. Self-abuse is an etiological factor in a large number of cases of insanity, but only those cases should be designated as insanity of masturbation in which the connection between the excesses and the symptoms is direct. 2. Self-abuse, to produce insanity, must have been carried very far, or the subject must be predisposed. Often onanism can be traced in other members of the family,

and very often it is found that the maternal ancestry is a weak one. 3. Mania, melancholia, and epilepsy occasionally occur in young masturbators, the former two usually having a favorable prognosis. 4. Stuporous insanity and katatonia are both common, and the former presents good prospects. 5. The forms thus far mentioned when occurring in masturbators present no essential difference from the typical psychoses. They should therefore be designated as mania, melancholia, stupor, etc., *from* masturbation, and not as masturbational insanity. 6. There is a chronic delusional insanity in grown persons who have been devotees of self-abuse, and it is usually a hypochondriacal *paranoia*. Clinically it is very like typical paranoia, and etiologically it is not the direct result of self-abuse, but rather of an intermediate neurosis, a cerebro-spinal irritation which is due to self-abuse. 7. Finally, there is a form of insanity developing about or after the period of puberty which does merit the name "masturbational insanity." It is chronic, has a tendency to agitated dementia, is characterized in its early period by anxiety, timidity, suspicion, fear, and a cowardly, mean disposition. Later there are confusion, meddlesome, aggressive behavior, vague delusions, loss of memory, and finally deterioration. After these are observed spells of fury or destructiveness. This form is never due to any other cause, and resembles no other form of insanity than the one already alluded to. 8. It is not always possible to differentiate between the insanity of pubescence and the form described. But where the former disorder is uncomplicated by the latter, it may be known by a history of peculiarities in infancy and childhood, by the greater constancy of the mental state, which in onanists is exceedingly variable. Hebephreniacs are more apt to be expansive in their notions, more inclined to favor projects of a chimerical character. In other words, insanity of pubescence is the paranoia of adolescence, and masturbational insanity the presenile dementia of the same period of life.

DR. RALPH L. PARSONS thought that the diet should be principally vegetable and milk, with little meat and stimulating condiments. As the patient seeks solitude, he should be thrown as much as possible with others, not alone of his own sex, but also of the opposite sex. He should be kept occupied, and manual labor of some form, like farming, is best. He knew of no special benefit derived from medicinal treatment, as with the bromides, or the application of irritating substances to the penis. Cutting off the prepuce might be of advantage in some cases. The patient should be closely watched day and night. Mechanical appliances might sometimes be necessary; moral influence could be depended upon to a certain extent.

DR. KELLOGG agreed with the author in the conclusions arrived at in the main. But he would like to know Dr. Spitzka's views as to the relative importance of artificial sexual indulgence and indulgence in the natural manner as factors in the production of insanity. Masturbation is a wide term, and ought to be defined. The effects in some cases are more observable in spinal lesions, in others in cerebral lesions. He believed that masturbation itself is not capable of producing insanity in a person of sound heritage. He was convinced that it is capable of suspending mental growth and producing forms of imbecility in those of sound parentage. He knew it could produce insanity at the time of pubescence, and there were persons of mature age who had a predisposition to insanity, in whom the attack was excited directly by sexual excess. Occasionally persons indulged to excess for a year or two only, as did sailors sometimes when on long voyages. Masturbation is also capable of producing insanity in old persons who are on the decline; it hastens dementia. He did not think there is a peculiar set of symptoms; the age of the patient, his education, his heritage, his whole mental make-up influence the symptoms more than the exciting cause. He did not believe it possible to separate masturbation from other forms of sexual excess, and the title "sexual abuse" would have been more appropriate because more comprehensive than self-abuse.

DR. NOYES said the case referred to by the author as having been cured, was the only one in the Bloomingdale Asylum in which a cure had been effected, and he attributed recovery in that case to transferring the patient to a farm, where his whole mode of life, including diet, was changed, and for the better.

DR. L. C. GRAY thought the author had given an accurate description of the mental disturbances often seen associated with the habit of masturbation, but he asked if he did not also find similar mental disturbances in individuals who were not masturbators.

DR. SPITZKA replied that in individual cases he had, but not in groups of cases as occurred in masturbators.

DR. GRAY had seen the mental disturbances described in patients addicted to masturbation, but he had been unable to decide to what extent masturbation could be considered as a cause or simply an associated habit. He had two cases in mind in which that group of symptoms were followed in the course of a few weeks by masturbation in individuals who had not previously been addicted to self-abuse. He had seen the same symptoms follow excessive sexual intercourse. He had in some cases noticed very exaggerated and extensive cremaster reflex.

DR. SPITZKA, in closing the discussion, said that there were undoubtedly some forms of sexual vice which were physically as injurious as onanism. But he had not seen a sufficient number of cases to enable him to say anything about their mental sequelæ unless he cared to risk being premature. He had known epilepsy and stupor to follow natural sexual excess in a young person, and paretic dementia in more than one cunnilinguist and sodomist. The form he had sketched is, so far as his experience goes, found only in masturbators. While he admitted with Dr. Kellogg that the single act of onanism is physically not a formal thing, and not much if anything different from normal coitus, there are two respects in which the onanist and libertine differ most widely: one is a moral, the other a physical, feature. The onanist practises a secret crime, the social and gregarious element is excluded. Knowing that his act is despised, he becomes inclined to suspicion and fear of discovery. A libertine cannot exceed beyond a certain limit. Coitus requires a certain condition of the organs which implies the existence of certain normal energies. When these fail the limit is set to further excess. With the onanist it is much different. There are masturbators who require no erection; who succeed in their injurious act even without any manipu-

lation. The consequence is that they pass far beyond the limit set by nature to natural excess, and no calculation can be made of the damage done. Dr. Parsons's dietary propositions were endorsed by the highest authority. Individually he was not decided in his own mind whether a highly nutritious diet would prove injurious in certain phases.

CORRESPONDENCE.

THOUGHT-READING.

THE wonder-seekers and lovers of the marvellous have recently been entertained in Boston and Philadelphia with Mr. Bishop's performances in "thought-reading." The audiences, receptively credulous, or critically skeptical according to the mental constitutions of the individuals composing them, have, at least, agreed in experiencing a bewildering wonderment over the exhibitions of Mr. Bishop's remarkable faculty. The psychological phenomena of the performances, and those developed in the audiences by these exhibitions of a mysterious power, must have some interest and value for physicians, and hence we present our readers with a brief analysis of the most salient points.

Mr. Bishop, who seeks to maintain before the public the attitude of a scientific investigator incapable of conscious imposture, entitles his performances "experiments." He ostentatiously divests his proceedings of any suspicion of deception by having his audience select a committee of the most reputable citizens to supervise all the details of the several tests. He also states with apparent candor—indeed, with an air of artless sincerity which is probably the perfection of art—that he, himself, is quite ignorant of the source and nature of his powers. He then requests all present to assume a mental attitude of unbiassed expectancy, and to postpone all discussion of the character of the experiments until they are concluded.

The act of "thought-reading," a term which Mr. Bishop prefers to "mind-reading," consists in the correct interpretation by him of some simple mental conception taken up for the purpose of the test by one of the gentlemen of his committee. To impart some picturesqueness and dramatic interest to the experiments, the thoughts are of such a character as stealing and hiding some object obtained from a person in the audience, stabbing some one and then concealing the dagger in an unexpected place, or writing on a blackboard the number of a bank note known only to those engaged in making the test, etc. Whatever may be the character of the test, the essence of it consists in a member of the committee taking up, and intensely fixing in his mind some particular act, which Mr. Bishop engages to reproduce in all its details.

Whilst he is being blindfolded in a neighboring apartment the act of stealing and hiding an object is done by some member of the committee designated for that purpose. To accomplish the reading of the thought Mr. Bishop must come in contact with the individual having it in his mind. In this the scientific attitude is supposed to be preserved, for, as is well known, an electric or nerve current cannot pass without an interposed conductor to transmit it. Before the actual contact is permitted to occur, Mr. Bishop performs, in sight of the audience, some passes and manipulation of the fingers which wear an aspect of mesmeric jugglery and detract from the scientific gravity of the experiment, although not without effect on the imagination of the spectators. The subject of the test trial is told to extend his hand, palm downward, and under it Mr. Bishop works his fingers rapidly for a few minutes; then striking an attitude, he suddenly places the back of the hand against his own forehead, and immediately assumes the expression of a trance-like state. Next placing the finger-tips of his left hand against the right hand of his subject, the pair start off hastily, Mr. Bishop leading on the search for the object hidden. The more rapidly he can lead his experimental subject the better; the more intently the subject and the audience follow the steps of the experiment the better; the more intense the sense of mystery and of occult power pervading the minds of all present the better—for thus all unconsciously contribute their aid to making the discovery.

It soon became evident that the band—a silk handkerchief accurately folded—did not cut off vision downward, and, hence, the ease with which he threaded the passages, and very effective the aid which his down-looking vision afforded in finding the person from whom the object hidden had been obtained.

What is the secret? Mr. Bishop alluded with a smiling disdain and no little derision to the various explanations that had been offered of his mysterious powers. Nevertheless, we submit our solution of the mystery. Mr. Bishop affirms that he can photograph (his own word) on his own mind, by the exercise of a peculiar attribute, the thought which dominates the mind of his experimental subject. Contact with his subject is necessary to produce, as contact is necessary to maintain, the impression. The absurdity of this claim must be apparent to any one acquainted with the simplest anatomical facts. The epidermis as effectually prevents actual contact of the nerve terminations of two persons touching, as a non-conductor does when interposed between the poles of the battery. The contact awakens the sense of touch, but separately and independently in each individual, and no passage of the nerve force across can take place for lack of the conducting bridge. Furthermore, Mr. Bishop's acts negative his assumption, for if the thought in another's mind is photographed on his brain, why does he rush hither and thither, often completely baffled for a time, in his search for the object hidden? He flies about in frantic haste, not to obtain the photographic impression, but to get his cue. How? By touch impulses, no doubt of a very subtile character, communicated by his subject; by the direction of the concentrated gaze of those in the vicinity of the person or hidden object, and the self-conscious air of the person from whom the object was obtained, both of which can be seen by him looking downward beneath the eye-band, when somewhat near.

The following considerations will render the above statements more conclusive. If the experimental subject possesses an acute wonder-sense, and is impressionable, especially if deeply interested in the experiment, he becomes more intent on Mr. Bishop's movements than of any movement made by himself. Under the same conditions, also, he becomes quite unconsciously a partisan of the performer, is gratified by success, and

equally chagrined by failure. This sympathetic appreciation influences the character and degree of the touch-impulses, and they are hence directive when the subject seems to himself to have maintained a merely passive attitude. The influence exerted upon the results of the trial-tests by the character of the subject, was admirably shown in one of the experiments made in Philadelphia. It was the second "experiment," and Mr. Bishop made a most unfortunate selection of a subject from the committee. He did not carefully observe, or his wits deserted him, or the devil who contrives to mix himself up with such matters blinded his judgment, for he designated a gentleman who by reason of his mental, moral, and physical attributes, is as little fitted as any man in the world to be the subject of such a trial. This gentleman, with the prominent brow, square and powerful jaw, and firm, unyielding mouth, with temperament to correspond, free from illusions, skeptical, if indifferent, was not one to resign his reason and judgment to the influence of a performer of mystical experiments. Hence he could communicate nothing, and being, as he said, "indifferent," Mr. Bishop received no guiding impulses, and ignominiously failed. Although before

> Whatever critic could inquire for,
> For every why he had a wherefore,

he now offered the lamest excuses, complained of the absence of the necessary sympathy on the part of the subject, and of the place where the articles had been hidden, which he maintained should have been in the sight of the audience. In the course of his explanations, he exhibited a good deal of chagrin, and was betrayed into more or less of the jargon used by the workers of spiritual "see-ants." It was subsequently observed that he declined the services of his immovable committeeman, but utilized those whose unconscious sympathy and impressionability had aided him before.

Sitting quite near the individual the subject of the stabbing experiment, the writer had an excellent opportunity to witness the demeanor of Mr. Bishop. When he approached, the victim had an unmistakably self-conscious air, which could be seen from beneath the eye-band looking downward. By this time Mr. Bishop had not only contact with his subject through his finger-tips, but in the hurry and excitement he had drawn his arm within his own, apparently without consciousness. Fumbling in a hurried manner about the chest of the man supposed to be stabbed, and muttering "I must find the precise spot," Mr. Bishop could be seen to turn his head in such a position that glancing from beneath his eye-bandage he could catch the expression of his subject's face, who gave an evidently unconscious nod when the operator's finger rested on the spot where the dagger was supposed to have entered. Meanwhile, so intent were the subject and the audience on the experiment, so directive was the gaze of the audience, and the movements of the subject, that Mr. Bishop, though a less expert operator of the mystical machinery of the "see-ants," could have little difficulty in arriving at the dominating thought of his subject.

Mr. Bishop's faculty is the product partly of his temperament and original type of nervous system, and partly of acquired dexterity. He is thin, has auburn hair, and is a combination of the nervous and sanguine temperaments. He possesses by nature, no doubt, a highly sensitive apparatus for the reception of impressions, especially the tactile, and long familiarity and practice with all the machinery employed by the professors of the art of mysticism, have developed to the highest extent his original gifts. Before entering on the business of "thought-reading," he had become celebrated as a "Professor of the Art of Exposing Professional Humbugs of the Spiritistic Kind." Performing in this line, he has demonstrated the mode of conducting the most difficult tricks of the spiritual "See-ants." He unearthed the mystery of "Katy King" some years ago in Philadelphia. Thus gifted and accoutred, his touch developed to the utmost nicety of perception, and the other senses trained into the most accurate performance of which they are capable, and having an inherent aptitude for the working of such public entertainments, Mr. Bishop has an admirable equipment for his "line of life." The public, fond of illusions, amiably participate in the business of "thought-reading," and Mr. Bishop quite satisfies their critical faculty when he appears attired in correct evening costume, decorated with glittering orders, and just from audiences of empresses and princesses, himself the Prince of Mystery.

INTUBATION OF THE LARYNX.

As an earnest advocate of intubation, I would take exception to an editorial on "Intubation of the Larynx and Trachea in Croup," appearing in THE MEDICAL NEWS of December 4th.

Speaking of the danger of crowding membrane down below the tube when it is introduced, the writer says: "Should such plugging with membrane accompany intubation, and relief to respiration fail to follow the removal of the tube, immediate tracheotomy would be requisite, with far less hope of success than if it had been done in the first instance;" and again, "With intubation no attempt can be made to remove false membrane." In a paper read before the Chicago Medical Society, and published in the *Chicago Medical Journal and Examiner*, vol. liii., No. 2, it was my pleasure to exhibit a trachea forceps devised for this particular purpose. Reference to a single case will be sufficient to show the value of this instrument.

December 10th, I was called to see a child of seven years, by Dr. C. E. Caldwell, of this city. The patient was in the last stage of asphyxia from membranous croup. An intubation tube was quickly introduced, but the child was unable to breathe. There were several attempts at respiration, but no air entered the lungs. The tube, from absolute necessity, was removed. The respiration was carried on imperfectly, and the tube was again introduced, but with the same result as at first. The tube was withdrawn, and the long trachea forceps introduced by way of the mouth, and a perfect cast of the whole trachea, and of the two large bronchial tubes to the extent of one and a half inches, removed. The intubation tube was now introduced, and respiration was so quiet as to be scarcely observed.

Every one who performs intubation frequently should carry with him these forceps, for this is an accident that will occasionally occur.

The editorial concludes with the statement "That intubation will save many lives in cases in which tracheotomy would not be permitted; that it will save many a

patient from the need of tracheotomy; and that it will probably sacrifice a few lives which might have a better chance for preservation under tracheotomy." The first two conclusions are correct, but I would contend that intubation will save many lives that *could not be saved* by tracheotomy. I am forced to this conclusion by considering my record of cases under three years of age. We all know that tracheotomy is rarely successful under this age. Occasional cases are reported, but they are few and far between. It has been my pleasure to perform intubation somewhat over one hundred times, and with a success that can be attained only by a few with tracheotomy. Fifty-two of my cases have been three years of age or under, a great many of them nursing infants, with thirteen recoveries, or twenty-five per cent. Among those recovering, may be mentioned an infant of nine months, another of fourteen months, another of eighteen months, and another of twenty-two months. If any tracheotomist can show a better record with an equal number of cases at this age, we will then be convinced that intubation will not for the present supersede tracheotomy.

One of the chief objections to intubation is the difficulty of nourishing the patient. This difficulty will soon be overcome, and Dr. O'Dwyer's invention will then prove a boon to suffering children that cannot be overestimated. To overcome this difficulty, I have had tubes connected with very small heads, and use a rubber collar with an artificial epiglottis attached. The rubber collar projects sufficiently to prevent the tube slipping into the trachea, and, being elastic, fits more perfectly into the larynx than the large metallic head. When the child swallows the epiglottis presses the artificial epiglottis down, so as completely to cover the aperture of the tube.

W. E. WAXHAM, M.D.,
Professor of Diseases of Children,
College of Physicians and Surgeons, Chicago.

CHICAGO, December 14, 1886.

NEWS ITEMS.

THE PROPOSED LABORATORY OF PRACTICAL HYGIENE IN THE UNIVERSITY OF MICHIGAN.—At a meeting of the Board of Regents of the University of Michigan, December 7th, Drs. Lyster, Baker, and Vaughn, of the State Board of Health, appeared, to speak in favor of the establishment of a laboratory of practical hygiene in the University in accordance with the resolution of the State Board of Health given in THE MEDICAL NEWS of November 20th.

Dr. Lyster said: "It is time that the scientific men of America should be furnished with facilities for original research, and that they should no longer be compelled to wait for all such work to be done in Germany and France. The resources of our country are great, and it presents many peculiar sanitary problems which demand solution. In nearly every department of science and art, the University of Michigan has taken the lead among the educational institutions west of the Alleghanies, now let it inaugurate a department of hygiene. Certainly, nothing could be of more importance to the people than a study of the laws of health. Drainage, sewerage, water-supply, the adulterations of food, and the study of methods for restricting contagious diseases are questions in which every community is directly interested, and the educational facilities of the State could not be better employed than in instructing its citizens in the art of the preservation of health and the prolongation of life."

Dr. Vaughan, after speaking at some length, presented the following proposed schedule of studies:

I. The Air.

A. Physical studies:

a. Observations on temperature, and studies of the influence of temperature on health; *b.* Determinations of air pressure and the effects of variations in air pressure upon diseases of heart and lungs; *c.* Determinations of air moisture, and the effects of climate as influenced by moisture; *d.* Determinations of ozone.

B. Chemical studies:

a. Analysis of air; *b.* Study of organic matter in the air; *c.* Microscopical studies of matter in the air.

II. The Soil.

A. Physical studies:

a. Determination of porosity; *b.* Determination of moisture; *c.* Determination of temperature.

B. Chemical Studies:

a. Determination of organic matter; *b.* Analysis of ground air; *c.* Analysis of ground water.

C. Microscopical studies of the soil.

III. Water.

a. Physical properties; *b.* Chemical analysis; *c.* Microscopical examination; *d.* Diseases due to impure water.

IV. Foods.

a. Nutritive value of foods; *b.* Economical value of foods; *c.* Study of individual foods; *d.* Ultimate analysis of foods; *e.* Detection of adulterations.

V. Clothing.

a. Determination of fibre, and the detection of adulterations in fibre; *b.* Determination of coloring matter and the detection of harmful colors.

VI. Habitations.

a. Sanitary locations; *b.* Sanitary properties of building material; *c.* Studies of air-space and ventilation; *d.* Study of temperature and methods of heating; *e.* Water supply; *f.* Disposal of waste.

VII. Contagious Diseases.

a. Study of the nature and history of contagious diseases; *b.* Study of germs; *c.* Methods of restricting contagious diseases; *d.* Vaccination; *e.* Disinfection and disinfectants.

VIII. Original Investigations.

Dr. Baker said that he wished to endorse the outline which had been presented by Dr. Vaughan, and to emphasize the necessity of laboratory work in teaching sanitary science. It was generally understood that for the successful teaching of chemistry laboratory work is essential, but he thought it is not so well understood, as it should be, that for successful teaching in sanitary science a well equipped laboratory is essential. He hoped the Regents would ask the legislature for means to establish the laboratory, not because it had been recommended by the State Board of Health; but because it is right, and will make the University more useful in promoting the welfare of the people. The University can do no nobler work. He assumed that no elaborate argument was needed to convince the Regents of the University that mental training in sanitary science is

worthy to rank higher than training in any other science or in art or literature. The question should not be, Why establish an effective system of training in sanitary science? It should be, Why has this not been done long ago? But mankind had to wait centuries until many universities and educational systems had grown old before the question was raised: "What knowledge is of most worth; what sort of mental training is of most benefit to mankind?" He supposed that all present had read Herbert Spencer's work on education which started with that inquiry, and which laid down a few propositions which seemed so true as to require no proof. One conclusion was, that knowledge is of most worth which tends directly to preserve life. Another is in effect, that next in value is knowledge which tends indirectly to preserve life. And compared with such knowledge and training, much that has been taught in schools and universities must be placed low in the scale of immediate and prospective usefulness.

The University is charged with the noble duty of training the minds of those who are to become the leaders of thought throughout this State and in the nation. The State cannot afford to have its leaders untrained in sanitary science, ignorant of that knowledge which is of most worth. He trusted that the Regents would do all in their power to establish the laboratory, and a system of instruction therein, and as rapidly as possible raise it to that high plane which sanitary science is entitled by reason of its great usefulness to mankind.

After consideration and listening to the needs of other laboratories, the Regents determined to ask the legislature for $75,000 with which to erect a building which shall furnish space for the laboratory of hygiene, and also supply more suitable accommodations for the already existing laboratories of physiology, physics, and microscopy.

GYMNASTICS IN FEMALE COLLEGES.—A recent presidental decree in France, says *Science*, regulates the instruction in gymnastics in the *lycées* and colleges for girls. The instruction must be given by female teachers, who must have received a certificate of aptitude from the proper authorities. Such teachers are to receive from 1200 to 2000 francs per year each, and may be required to teach sixteen hours a week. They must teach at least twelve hours a week.

MORBID SENSE OF RESPONSIBILITY.—People sometimes think that medical men are apt to look upon their patients as machines or as corpora vilia for their experiments. How very far this is the reverse of the truth is probably only known to medical men themselves. Indeed the sense of responsibility is sometimes exaggerated to an abnormal or morbid extent, as is shown by a very sad occurrence which, as we mentioned last week, has just taken place at St. Petersburg, resulting in the self-destruction of one of the most gifted and esteemed surgeons there, Dr. S. P. Kolomnin, Professor of Clinical Surgery in the Military Medical Academy. He had to perform an operation on the rectum of a woman, and for the purpose employed cocaine anæthesia; the patient died in a very few hours after the operation from cocaine poisoning; at least, that is what is considered to have been the cause of death, but no details have as yet been published. The sad result took such a hold on the mind of the unfortunate operator, that, though his colleagues did their best to reassure him, and to show him that the result should be ascribed to an accident such as most surgeons have occasionally met with, it was impossible to prevent him from considering himself the culpable agent in the woman's death. This so preyed upon his mind that he shot himself with a revolver on November 23d.

AN EARLY MICROBIST.—The *Revue Scientifique* claims the first thought of the germ theory of disease for a Dr. Goiffon, who died at Lyons more than one hundred and fifty years ago. He believed, in 1721, that diseases like the plague could be caused only by minute insects or worms; too small to be seen, perhaps, but nevertheless really existing. He also believed that the conveyance of infection could be explained by their activity and propagation.

NOTES AND QUERIES.

To the Editor of THE MEDICAL NEWS,

SIR: I had last summer a case of dry senile (or so-called spontaneous) gangrene in a child not quite two years old, resulting, probably, from embolism. I had never seen a case of such disease at that tender age. I can find no case recorded. Nor, after extensive correspondence with eminent members of the profession, can I learn of anything of the kind. I removed the foot at the tarsus (Heys's amputation). If any reader of THE NEWS knows of a similar case, either personally or in any way, he is earnestly requested to communicate it. T. C. WALLACE, M.D.

CAMBRIDGE, N. Y., Dec. 21, 1886.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 21 TO DECEMBER 27, 1886.

FORWOOD, W. H., *Major and Surgeon.*—Granted leave of absence for one month.—*S. O. 129, Department of Dakota*, Dec. 16, 1886.

LANDERDALE, J. V., *Captain and Assistant Surgeon.*—Ordered from Fort Concho to Fort Clark, Texas.—*S. O. 174, Department of Texas*, Dec. 16, 1886.

EVERTS, EDWARD, *First Lieutenant and Assistant Surgeon.*—Ordered from Fort Grant to Fort Apache.—*S. O. 136, Department of Arizona*, Dec. 16, 1886.

MASON, CHARLES F., *First Lieutenant and Assistant Surgeon.*—Ordered from Fort Huachuca to Fort McDowell.—*S. O. 136, Department of Arizona*, Dec. 16, 1886.

BANISTER, W. B., *First Lieutenant and Assistant Surgeon.*—Ordered from Fort Wingate to Fort Lowell.—*S. O. 136, Department of Arizona*, Dec. 16, 1886.

DIETZ, W. D., *First Lieutenant and Assistant Surgeon.*—Ordered from Fort Stanton to Fort Bayard.—*S. O. 136, Department of Arizona*, Dec. 16, 1886.

POLHUMUS, A. S., *First Lieutenant and Assistant Surgeon.*—Ordered for duty as Post Surgeon at Fort Gaston, Cal., relieving

H. I. RAYMOND, *First Lieutenant and Assistant Surgeon.*—Ordered for duty at Angel Island, Cal.—*S. O. 123, Department of California*, Dec. 13, 1886.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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